National Defence / Défense nationale

B-GL-352-001/FP-001

LAND FORCE

INTELLIGENCE, SURVEILLANCE, TARGET ACQUISITION AND RECONNAISSANCE (ISTAR)
(ENGLISH)

(Supercedes B-GL-352-001/FP-001 dated 2001-08-01)

WARNING

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Issued on the Authority of the Chief of Land Staff

Canada

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OPI: DAD 5-4 **2004-01-07**

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FOREWORD

GENERAL

1. B-GL-352-001/FP-001 *Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR)* is issued on the authority of the Chief of the Land Staff.

2. This publication is effective upon receipt and supercedes B-GL-352-001/FP-001 dated 2001-08-01.

3. The French version of this publication is B-GL-352-001/FP-002 *Renseignement, surveillance, acquisition d'objectifs et reconnaissance (ISTAR).*

4. Suggestions for amendments should be forwarded through normal command channels to the Directorate of Army Doctrine (DAD), Attention DAD 5-4.

5. Unless otherwise noted, masculine pronouns contained herein apply equally to men and women.

6. This publication is available electronically on both the Defence Information Network (DIN) and the World Wide Web in the Army Electronic Library (AEL). Keyword—Army Electronic Library

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104-03901/

PREFACE

AIM

1. The aim of this manual is to provide guidance for the employment of the Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) capability in Canadian Forces land operations.

SCOPE

2. This publication contains ISTAR tactics, techniques and procedures (TTP) appropriate to brigade group and battle group level operations.

3. These TTPs apply to all levels of intensity. However, it must be understood that in domestic operations, legal requirements will vary from situation to situation and will need to be addressed and resolved prior to implementation of the ISTAR plan. It is recognized that the particular legal and other restraints and constraints involved in domestic operations will affect these TTP and are considered to be outside of the scope of this manual.

REFERENCES

4. The following references form the foundation of, and should be read in conjunction with, this manual:

a. B-GL-300-005/FP-001 *Land Force Information Operations*;

b. B-GL-357-001/FP-001 *Land Force Information Operations—Intelligence Field Manual*; and

c. B-GL-333-001/FP-001 *Formation Standing Operating Procedures*.

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CHAPTER 1
INTRODUCTION

SECTION 1
GENERAL

1. This document describes the tactics, techniques and procedures (TTP) for employment of the Land Force (LF) intelligence, surveillance, target acquisition and reconnaissance (ISTAR) capability during operations. For the remainder of this publication, the use of the term ISTAR will mean LF ISTAR capability.

DEFINITION

2. ISTAR is a grouping of information collection, processing, dissemination and communication assets designed, structured, linked and disciplined to provide situational awareness (SA), support to targeting and support to commanders in decision making.[1]

ROLE

3. The role of ISTAR is to integrate the intelligence function with surveillance, target acquisition (TA), reconnaissance and other information-generating assets in order to improve a commander's SA, streamline decision-making processes and cue manoeuvre, strike and/or other ISTAR assets.

PRINCIPLES OF DEPLOYMENT

4. It must be stressed that ISTAR must not replace the asset owner's tactical role in commanding assets but rather ISTAR integrates these assets as part of a seamless web to support decision-making. The principles of ISTAR deployment can be described as follows:

a. **Centralized Coordination**. ISTAR must be coordinated centrally at each level of command

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[1] The term ISTAR is used to refer both to the operational process and to the personnel, assets and architecture involved in the process.

without sacrificing the principle of mission command. This ensures the most effective and efficient use of resources.

b. **Timeliness**. Information and intelligence must be provided to the commander in a timely fashion to allow him to work within the enemy's decision-action cycle.

c. **Accuracy**. The ISTAR product must be accurate and relevant to the operation it is supporting.

d. **Passage of Information**. Within an ISTAR system, it must be possible to pass information between ISTAR assets and appropriate commanders and staffs without overloading them with irrelevant data.

e. **Economy of Effort**. The ISTAR plan must use all sensors to their maximum ability while retaining enough redundancy for contingency operations.

CHARACTERISTICS

5. The following are the characteristics of the ISTAR system:

a. **Responsiveness**. The system must be able to react quickly to the commander's information and intelligence requirements and to rapidly exploit targeting information.

b. **Continuous Coverage**. Surveillance, target acquisition and reconnaissance must be able to provide coverage 24/7 in all weather.

c. **Robustness**. ISTAR assets must provide a robust mix of overlapping systems in terms of technology, range and performance in order to cope with enemy action as well as changing meteorological and light conditions and to defeat adversary deception plans.

d. **Tailorable**. ISTAR assets should be modular so that the right mix of assets can be tailored for a force, according to the needs of the mission.

SECTION 2
OPERATIONAL CONCEPT OF DEPLOYMENT

6. By its very nature ISTAR must cover the deep, close and rear battle as well as future and current ops. This translates into the need for flexibility within the ISTAR system and from those assets directly effected by the ISTAR process. The overall benefit gained from ISTAR is that it is a process that enhances both the speed with which targets are engaged and the assessment of engagement results (BDA). This will lead to a clear assessment of the enemy disposition, which will in turn help the commander in formulating and executing his plan.

ISTAR AT BRIGADE HQ

7. The Intelligence, Surveillance, Target Acquisition and Reconnaissance Coordination Centre (ISTAR CC) and the All-Source Cell (ASC) form the nucleus of ISTAR operations within a brigade headquarters (bde HQ), with the ASC providing coordination and analysis under the direction of the ISTAR CC. They must work closely with other elements of the HQ to ensure a coordinated and seamless ISTAR effort throughout the area of operations. Within the bde HQ there are three other coordination centres that are closely linked to the operation of the ISTAR CC and the ASC, respectively. The Fire Support Coordination Centre (FSCC) is the bde HQ link to the fire support system and gives the ASC access to artillery intelligence. The Engineer Support Coordination Centre (ESCC) is the bde HQ link to the engineer net and the ASC relies on it for specialist engineer intelligence. The Air Support Coordination Centre (ASCC) is the bde HQ link to both the air support and air defence (AD) nets. The ASCC provides air attack warning and access to the common air picture. It is also responsible for the airspace coordination necessary for unmanned aerial vehicle (UAV) planning. The remainder of the bde units provide the ASC with combat information that contributes to the common operating picture (COP). In particular, combat information adds necessary detail that may not be provided by dedicated ISTAR assets for close and rear operations.

ISTAR AT BATTLE GROUP LEVEL

8. Although there is no specific ISTAR organization organic to the battle group (BG), subordinate levels of command (BG and below) have different tasks and information needs from those at

higher levels. They are primarily concerned with the minute-to-minute management and control of units within their area of command. Compared to bde, tasks at the BG level and below are more immediate and time expiring. Levels of command at BG and below need to receive, process and disseminate information provided by combat teams, observation posts (OPs), reconnaissance parties and weapon platforms and ensure its timely distribution to those who need it, be that higher command, adjacent units or logistic resources. They must respond rapidly and effectively to changes in the tactical situation imposed both from above and below.

INDEPENDENT BATTLE GROUP OPS

9. Battle groups can be called upon to operate independently of a bde HQ, such as in coalition operations. In the absence of a bde HQ, many of the ISTAR activities normally carried out at bde level will have to take place at the BG HQ. Operational experience has shown that a BG Int section augmented from higher HQ can carry out ISTAR tasks effectively. When planning, care must be taken to ensure that sufficient personnel and connectivity are provided to manage the available sensors effectively as it is not sufficient to "pro-rate" the size of the BG ISTAR CC against that of a bde ISTAR CC.

SECTION 3
ISTAR IN RELATION TO OTHER PROCESSES

10. Nothing within the ISTAR concept eliminates the requirement for other processes to take place. Intelligence preparation of the battlefield (IPB), the operational planning process (OPP), the intelligence cycle, and the targeting cycle all remain. The only significant change is to their integration into a process of processes.

ISTAR IN RELATION TO THE INTELLIGENCE CYCLE

11. Intelligence drives and exploits ISTAR and is its principal outcome. On behalf of the commander, intelligence staffs perform a key role in, but do not "own" the ISTAR process. The ISTAR process originates from both the intelligence cycle, undertaken by intelligence staffs, and the operational scheme of manoeuvre, which is managed by the operations staff and the targeting process. During the intelligence cycle, intelligence staffs identify the information and

intelligence requirements on behalf of all staff branches and analyze how to obtain it. The management of these overarching intelligence and information requirements is conducted by means of a collection plan, which is supervised by the intelligence staff on behalf of the commander. Accordingly, ISTAR is a subset of the overarching collection plan. On the occasions intelligence staffs do not have executive control over assigned collection assets, they typically recommend to the operations staff how the intelligence/information is to be obtained. Operations staff usually leads the detailed coordination and approval of ISTAR operations. The information derived from ISTAR operations is provided concurrently to the intelligence cycle, the targeting process and other appropriate staff.

ISTAR IN RELATION TO INTELLIGENCE PREPARATION OF THE BATTLEFIELD (IPB)

12. ISTAR begins during step 2 of IPB. That is, initial NAI can be identified based on restrictive terrain and its effect on movement as well as key terrain and vital ground. During step 3 and the creation of an event template, further NAI are identified. And during step 4, courses of action, more NAI are added and TAI are plotted.

ISTAR IN RELATION TO THE OPERATIONAL PLANNING PROCESS (OPP)

13. During the war game, the ISTAR plan will be finalized and additional NAI and TAI will be added as required. The G3 Staff must endeavour to mesh the synchronization matrix and the decision support template with the ISTAR plan in order to maintain coordination of sensors and to streamline the targeting process.

ISTAR IN RELATION TO THE TARGETING CYCLE

14. **Coordination of the Targeting Process**. Targeting is defined as "the process of selecting targets and matching the appropriate response to them, taking account of operational requirements and capabilities."[2] It is the mechanism for coordinating ISTAR and attack resources such as aviation, indirect

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[2] AAP-6 *NATO Glossary of Terms and Definitions.*

fire and offensive information operations (IO) to ensure that they are properly integrated and that the most appropriate weapon system attacks each target. It is, therefore, a tool for the efficient and effective management of resources and its successful implementation is fundamental in our speed of reaction to the enemy.

15. The decide function is the cornerstone of the targeting process and requires close coordination between the commander and the intelligence, plans, operations and targeting team elements. The process begins with receipt of a mission, whether assigned by higher headquarters or deduced by the commander. The commander, with input from his staff, analyzes the mission and considers the tasks that must be performed. Targeting priorities must be addressed for each phase or critical event of an operation. The decisions made are reflected in visual products and clearly convey the commander's intent with respect to the following priorities:

a. the tasking of ISTAR assets;

b. information processing;

c. target selection;

d. selection of the engagement means; and

e. the requirement for BDA.

COUNTER-ISTAR

16. Counter-ISTAR is concerned with preventing an adversary collecting information on our forces and intentions. Counter-ISTAR actions will be directed by the counterintelligence (CI) plan and will employ a range of effects from across the Combat Functions. Generally, the counter-ISTAR plan will coordinate existing response assets rather than requiring niche capabilities. The destruction, degradation, suppression or manipulation of adversary ISTAR should, however, be considered as a potential task when developing response capabilities within eachcombat function.

17. Response capabilities targeting adversary ISTAR will require own force ISTAR support to locate and identify targets. Targets will include passive and active sensors on a range of airborne and ground based platforms, requiring the capacity to detect a broad range of signatures. Ideally, brigade ISTAR capabilities would detect an adversary's passive ISTAR by detecting associated

signatures and then isolate individual sensors for attack by lethal or non-lethal means. The ISTAR system must also be able to detect special forces reconnaissance and HUMINT networks, requiring the capacity to detect small signatures, at closer ranges, and to infiltrate HUMINT networks. The CI effort will also search for asymmetric threats in support of force protection efforts, particularly in urban terrain, requiring the ability to locate, identify and monitor individuals and to exploit the local infrastructure.

CHAPTER 2
THE ALL-SOURCE CELL (ASC)

SECTION 1
INTRODUCTION

DEFINITION

1. The All-Source Cell (ASC) is an element of the Intelligence Surveillance and Target Acquisition (ISTAR) Coordination Centre (CC) responsible to support brigade and unit level operations through the provision of timely, accurate, and relevant intelligence derived from a broad spectrum of sources fused to positively influence decision-making cycles.

ROLE

2. The role of the ASC is to provide analysis and collection coordination within the ISTAR system resulting in the provision of Red and Brown Situational Awareness (SA) to the ISTAR CC and the Commander. Furthermore, the ASC will assist in the coordination of targeting and development of the Common Operating Picture (COP) for commanders and act as a central hub for sensor, source, and agencies links into the Brigade Headquarters (Bde HQ).

SECTION 2
ORGANIZATION

3. The organization of the ASC (Figure 1) is separated into five cells: Command, Analysis, Collection Coordination Information Requirements Management (CCIRM), Information Management Support (IM Sp), and the Secure Compartmented Information Facility (SCIF).

4. The majority of ASC personnel are drawn from the Intelligence Branch (MOC 82A/111); however, within the SCIF there could be Signals personnel but Communications Research personnel is preferred (MOC 215/291). Even though, the SCIF may only be allocated for operational tasks, due to operational and training restrictions associated with field deploying Top Secret and Special Access (TSSA) material, the SCIF function should be included in most ASC training activities.

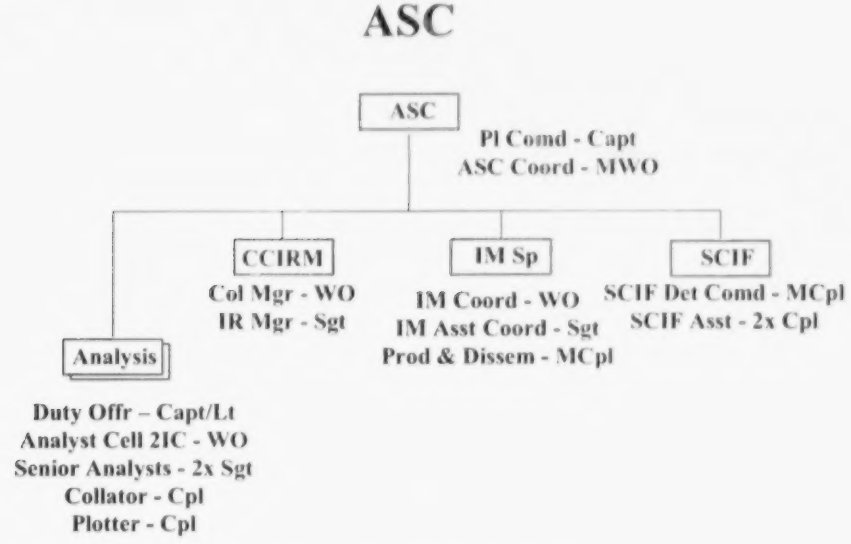

Figure 2-1: Oranization of the All-Source Cell

SECTION 3
FUNCTION

5. The functions integral to the ASC are: Command and Liaison, Analysis, CCIRM, Red and Brown Information Management (including dissemination), and Management of TS/SA material.

6. The basic ASC functions can be extracted from the All-Source Cell Terms of References and as such define:

a. **Command**. The ASC Pl Comd will command the ASC, hold the position of G2 Ops, liaise with operations staff and Sensor, Source, and Agency Liaison Officers (LO) regarding all current operational issues, and provide Red and Brown SA to the COP (Red Track Manager IAW FSOP 109). The ASC Pl Comd is directly responsible to the G2 and shall assume the role of acting G2 as required. The ASC Coordinator is to ensure that ASC processes and requirements are completed in an accurate and timely manner. The ASC Coord assumes the duties of the ASC Pl Comd, when

absent or as required, and is responsible for the ASC night shift.

b. **Analysis**. The Analysis Cell staff is responsible for producing the following:

(1) **General**. The Analysis Cell staff becomes responsible for the evaluation of Sensor, Source, and Agency data in the absence of pre-processing. In order to process this data, the Analysis Cell personnel requires, at a minimum, rudimentary knowledge of Sensor, Source, and Agency data processing skill sets.

(2) **Duty Officer**. The Duty Officer (DO) is responsible for the timely production of Intelligence Summaries (INTSUMS), Intelligence Reports (INTREPS), certifying Red and Brown current SA for publishing to the COP, and shall focus on the elimination of intelligence gaps. The DO provides all source finished (fused) intelligence to enhance the Commander's situational awareness of the Red and Brown current situation. The focus of the ASC DO will be on the provision of predictive and "value added" intelligence information for the commander.

(3) **Analysis 2IC**. The Analysis Cell 2IC is to ensure that all incoming Analysis Cell information is reviewed and processed according to importance and provides timely Indication and Warning (I&W). The 2IC is also responsible for the regular production of INTSUMS, INTREPS, and the development of Requests for Information (RFIs) to be staffed through CCIRM. The 2IC must be able to produce an all source finished (fused) intelligence product.

(4) **Senior Analyst**. The Senior Analysts will ensure that all information is

reviewed and shall provide timely I&W. The analysts are also responsible for the regular production of INTSUMS, INTREPS, and the development of RFIs within their areas of responsibility.

(5) **Collator**. The Collator is responsible for the effective management of the digital collation system. The collator is to be prepared to assume the duties of the Plotter or Senior Analyst, as required.

(6) **Plotter**. The Plotter is responsible to ensure that all Red and Brown information displayed on the digital overlay is current and accurately plotted. The Plotter is to be prepared to assume the duties of the Collator or Senior Analyst, as required.

c. **CCIRM**. The CCIRM Cell will take the G2 Plan Cell developed PIRs and IRs and pass them to the Analyst Cell for processing. The ASC CCIRM Collection Manager will coordinate with the G2 Plans Cell the development Commander's Critical Intelligence Requirements (CCIR). RFIs are logged and passed to analysis shifts for exploitation. Information gaps are identified through the ISTAR matrix, and passed to the ISTAR CC with recommended sensor tasking. Close coordination with the ISTAR CC as well as G3/G2 Plans is required to recommend the best use of collection assets to eliminate gaps in the Red and Brown digital templates. The ASC CCIRM Collection Manager ensures that PIR/IR answers are provided to the IM Sp Cell for dissemination.

d. **IM Sp**. The Information Management Support Coordinator (IM Sp Coord) is to ensure that all ASC products are identified and circulated as required for action. The IM Sp Coord acts as the conduit to orchestrate the efficient flow of intelligence or information both internally to the ASC and the COP including distribution of Red

SA and ASC products by the required means and IAW FSOP 109. The IM Sp Coord will act as the intelligence database custodian on behalf of the ASC, G2, and ISTAR CC. The IM Sp Coord will assist the Analysis Cell, CCIRM, and SCIF (sanitized product only) to publish respective product to the COP.

e. **SCIF**. The SCIF Supervisor is responsible for the collection of information and dissemination of (sanitized) intelligence products to the Analysis, CCIRM and IM Support Cell staff. The SCIF Supervisor ensures that ASC PIRs and IRs are input into National, Allied, and Strategic RFI systems and monitors the RFI status. The SCIF Supervisor is responsible for effective management and safeguarding of sensitive documents and will comply with Information System Security Officer (ISSO) policies and direction. Lastly, the SCIF is responsible for the immediate dissemination of critical corroborated intelligence.

SECTION 4
POSSIBLE ASC FIELD/OPERATIONAL LAYOUT

7. **General**. The options and variants of a layout are dependent on the type of HQ shelter the Commander wishes used, the IT hardware and requirements, Coordination Cell's location (EWCC/UAV/ERSTA), and the type of ASC vehicles.

8. **Setup**. Although currently undecided, some basic premises for an ASC layout should hold true:

a. the ASC should be set-up as one cohesive, interconnected sub unit;

b. the Analysis Cell, IM Sp, CCIRM, Coordination Cells (Sensor, source, and agency) and the ASC HQ should all be collocated and share a SECRET and below network with sufficient built in redundancy;

c. the ASC needs to be connected to the Current Operations side of the HQ (G3, G3 ISTAR, FSCC, ESCC, and BAIO) but cannot be a through way for HQ internal traffic;

d. although the ASC will operate in a digitized environment, an area for reversion to a manual system should be available;

e. the SCIF location, whether collocated or physically separated, from the ASC requires further examination during FTX's;

f. the SCIF should have hard wired (land line) connectivity to the ASC; and

g. the ASC layout and especially the SCIF must have controlled access and blackout protected entry points.

9. **ASC Interactions** (Figure 2-2). The ASC interactions are complete and continuous within all ASC cells. The ASC interaction with a Brigade Headquarters includes all cells due to the broad spectrum of possible intelligence issues; however, the main personal link to a Brigade Headquarters will be through the ASC Pl Comd as G2 Ops. In a digital environment the link could be direct or established through the IM Sp Cell who, through use of a message handling system or intelligence personnel, will route and direct messages and information as required. The link to National Intelligence is normally coordinated through the SCIF, which receives all critical information from Higher Intelligence and Operations sources to be disseminated (sanitized) to the ASC, or through the ASC Pl Comd to the Commander.

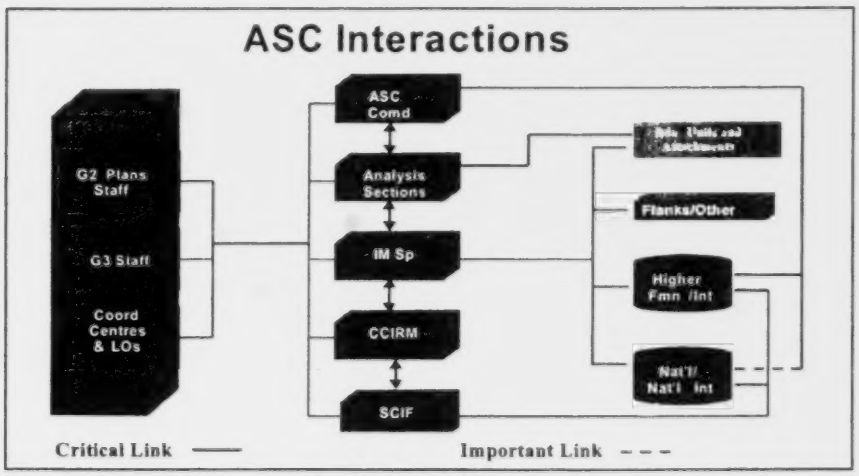

Figure 2-2: All-Source Cell Interactions

d. although the ASC will operate in a digitized environment, an area for reversion to a manual system should be available;

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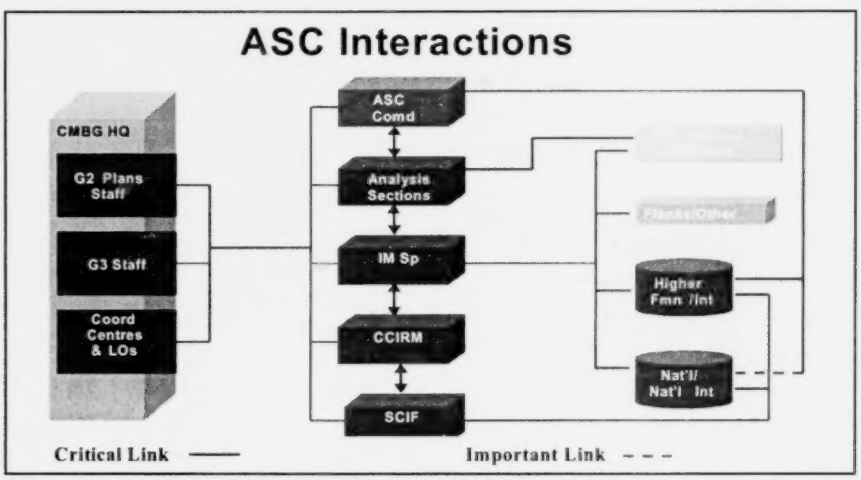

Figure 2-2: All-Source Cell Interactions

SECTION 5
ASC BATTLE PROCEDURE

10. **Receipts of Tasks (Higher Order Received)**. As step one of OPP, this task is straightforward; an internal warning order to the staff in the headquarters should be issued, which will lead into mission analysis.

11. **G2 Staff Guidance**. The G2 guidance provides essential direction to the ASC staff to begin preliminary preparations such as updating available background information and refining basic intelligence. The G2 assigns IPB tasks.

12. **Battlespace Environment Defined**. The ASC Analysis Cell, when directed, will help identify the geographical limits of the unit's Area of Operation (AO), battle space and area of intelligence interest, area of intelligence responsibility and general physical characteristics of the battlefield. The next IPB step, Battlespace Effects Described, normally does not involve ASC staff but instead focuses on the G2 Plan Staff, G2 Geo, G2 Met, CIMIC, and Engineers Staff as principal players.

13. **Threat Evaluated**. The ASC Analysis Cell will help the G2 Plans staff using basic intelligence, doctrinal templates, and open source intelligence to refine basic intelligence and doctrinal templates, develop situational templates and the initial HVTL, identify intelligence gaps and threat capabilities and weaknesses.

14. **Develop Threat COAs**. The ASC Analysis Cell will aid the G2 Plans staff in combining the products of the previous IPB steps in order to assess potential adversary courses of action and to develop situational templates, event templates, draft the information collection plan, and update the HVTL. Once the most likely, next likely, and most dangerous courses of action have been developed the G2 and G2 Plans will participate in COA Wargaming. The resulting products from the COA wargame will be a draft AGM, updated collection plan, draft decision support template and draft synchronization matrix.

15. **Wargamed**. Once the options have been compared and the decision has been briefed, the ASC Pl Comd and ASC CCIRM, in coordination with G2, G2 Plans, will produce a refined Collection Plan, Decision Points, refined Decision Support Template, identified Intelligence Gaps, Named Area of Interest (NAI), and refined Sync Matrix. Following this, the Int Annex to Op Order is drafted, by the G2 Plans staff, and once approved, published.

16. **ISTAR Matrix Developed**. The ASC CCIRM, ASC PI Comd in conjunction with the G2 Plan Staff, and Sensor Liaison Officers, will draft the ISTAR matrix in conjunction with the G3 ISTAR staff. Once approved and sensor, source, and agency tasks have been coordinated, the ISTAR Matrix will be published.

17. **Intelligence Gaps Identified**. The ASC Analysis Cell, ASC CCIRM, and G2 Plan Staff will use the updated Collection Plan and updated Current Intelligence, and refined and published ISTAR Matrix to identify the Intelligence Gaps.

18. **New PIR/IR Identified/Developed**. The ASC CCIRM and ASC PI Comd can identify PIRs and IRs to augment/refine those that the commander has already identified and stated as being critical for operations and planning (approval is required by the G2 and or G3 ISTAR (possibly titled Chief of Staff or CO ISTAR).

19. **Sensor, Source, and Agency Tasking Recommended**. The ASC CCIRM and ASC PI Comd, in liaison with G3 ISTAR and Sensor, Source, and Agency LOs, will evaluate the products listed under input requirements and the current situation to recommend taskings. The ASC Analysis Cell and ASC CCIRM will ensure currency regarding status for possible utilization of sensor, sources, and agencies for tasking.

20. **Intelligence Collection Plan Refined**. The ASC Analysis Cell, ASC CCIRM, ASC PI Comd, G3 ISTAR, and Sensor, Source, and Agency LOs are responsible for identifying Intelligence Collection Gaps and refining the Intelligence Collection Plan (ICP) and ultimately refine and publish the ISTAR Matrix.

21. **Sensor Report Handling**. The Collator as well as CCIRM will log the incoming report. The Analysis Cell Collator and 2IC will screen the report for urgency and relevance, thereafter, processing it accordingly. The ASC CCIRM will confirm, quantify and analyze if the report satisfies the tasking requirements. Following report validation and identification of gaps the ASC PI Comd, in close liaison with the Sensor, Source, and Agency LOs, the Analysis Cell and CCIRM will suggest a retasking to the G3 ISTAR if required. The G3 ISTAR, ASC CCIRM, ASC PI Comd, and Sensor, Source, and Agency LOs will use the updated Collection Plan, and refined and published ISTAR Matrix to produce an updated Collection Plan, refined and published ISTAR Matrix, and updated Sensor, Source, and Agency status information.

22. **RFI Management**. ASC CCIRM receives the RFI, records it, and reviews it with respect to work in progress. To ensure that RFIs are staffed efficiently by grouping similar tasks and exploiting existing current intelligence. ASC CCIRM will group similar RFI to turn them into one task, will consolidate duplicate RFI into a single task, and check the existing current intelligence to determine if there is existing intelligence to respond to the RFI without any further analysis. The ASC CCIRM will update the RFI Status Information.

23. **Intelligence Gap Identified**. When current intelligence is inadequate, this step will initiate activities within the collection plan execution process. As a result of the previous check of the current intelligence database, the ASC CCIRM determines that the intelligence is inadequate to answer the RFI thereby identifying an intelligence gap. This gap will then be used to initiate new collection within the collection plan execution process. The ASC CCIRM, ASC Pl Comd, and ASC Analysis Cell will use updated RFI Status Information to identify Intelligence Gaps.

24. **Suggest Tasking for Collection (answer RFI)**. CCIRM will suggest the best method to obtain an RFI answer and through liaison between the ASC Pl Comd and the G3 ISTAR create a tasking entering the collection management cycle. Based on current intelligence or collected information, ASC CCIRM will draft a response to the RFI. The response will be verified by the ASC Pl Comd, and verified and signed by the G2. The outgoing RFI will be managed in accordance with outlined RFI management procedures.

SECTION 6
PROCESSES

25. **ASC COMD**. The ASC Comd Cell answers directly to the G2 and has the following responsibilities:

a. Analyzing single source information and processing data into accurate, relevant, and timely all source intelligence products.

b. Continuous updating of Red and Brown SA at the ISTAR CC and COP.

c. Warning Intelligence.

d. Ensuring the effective flow of intelligence and information to users.

e. Conducting CCIRM for the current battle, including:

(1) management (awareness);

(2) identification of intelligence gaps;

(3) obtaining means to fill identified intelligence gaps; and

(4) matching received information to stated information requirements.

f. Welfare, discipline, morale and training of ASC/G2 NCMs in coordination with the G2.

g. Supervision and coordination of all ASC administration.

h. Supervise and assist in information collection activities.

i. Assist G2 in the identification of PIRs, Combat Indicators, and NAIs as required.

j. Accountable for all official ASC correspondence.

k. Operational readiness of the ASC.

l. Coordination and assign intelligence shifts for the ASC.

m. Control and account for passwords, nicknames and code-words.

n. Review Counter Intelligence plan and coordinate IAW orders.

o. Coordinate Special Access Intelligence.

26. **ASC Analysis Cell**. The Analysis Cell answers directly to the ASC Pl Comd and has the following responsibilities:

a. The Analysis Cell will provide tailored analytical intelligence products specific to the commander's immediate requirements. The Analysis Cell is responsible for the provision of basic intelligence in corroboration with the G2 and G2 Plans staff focussing on the assigned mission or tasking. Other G2 assets such as the G2 Meteorology and

G2 Geomatics will be utilized to improve and develop Brown situational awareness.

b. On some occasions, information will be single source, unevaluated and therefore, could be inaccurate. However, information deemed critical needs to be disseminated at the same time the Analysis Cell is conducting a detailed analysis in an attempt to corroborate the accuracy and relevance of this information.

c. Collation is the core function of the IM cycle. The principle task of the collator is to separate pertinent information and/or intelligence that is received from incoming data and transform it into a useable form for processing by the Analyst. The collator, as part of the Analysis Cell, is responsible for development and continuous improvement of the database.

d. The Analysis Cell will attempt to exploit any sensor, source, and agency data and information that has not been pre-processed. If required, items deemed "interesting" will be forwarded to the appropriate authorities for further evaluation.

27. **ASC IM**. The ASC IM Section answers directly to the ASC Pl Comd and has the following responsibilities:

a. The ASC IM Section is to ensure all data sources are exploited, managed, produced, and disseminated with minimal delay.

b. There are a variety of functions that are the responsibility of the IM section:

(1) collation of incoming/outgoing traffic and data pertinent to the ASC;

(2) database management;

(3) administering intelligence based and red and brown situational awareness web pages; and

(4) administrating and managing all ASC IT systems.

c. The IM Sp Cell will ensure an adequate redundancy of data exists in order to prevent data loss or data accessibility problems. Also, in case a system fails, the IM Sp Cell will make available backup copies of key designated material such as the COP with accompanying overlays. Digital data exchange shall be done in accordance with FSOP 109.

28. **ASC CCIRM**. The ASC CCIRM Section answers directly to the ASC Pl Comd and has the following responsibilities:

a. The CCIRM Cell will be the central point of contact within the ASC (Brigade Headquarters) for coordinating, answering, replying to and forwarding RFIs relating to Red and Brown SA. An RFI should be generated to answer CCIRs, PIRs, IRs, and to fill Intelligence gaps. The CCIRM Cell will review each request; to eliminate duplication, establish production priorities, and maintain balanced support to the intelligence community, so no one source is over tasked. RFIs are to be submitted utilizing the format provided in Appendix 1.

b. The Commander's PIRs are Priority Intelligence Requirements associated with a decision that will affect the overall success of the commander's mission. The Commander may change the PIRs depending on the evolving situation and mission. IR's are Intelligence Requirements (a subset of PIRs) to fill knowledge gaps. With advice from the Brigade Intelligence Staff, the Commander alone can determine what the PIRs are, and their priority in order to focus intelligence resources on critical information gaps which may affect the overall mission. PIRs generally are very focused and share some common characteristics:

(1) they ask only one question;

(2) they focus on a specific fact; event, or activity;

(3) they provide intelligence required supporting a single decision; and

(4) they are tied to key decisions that the commander has to make.

c. The CCIRM Cell simplifies the collection effort by merging similar requirements. The CCIRM Cell must exercise caution to ensure that in merging requirements it does not lose the intent of either of the original requests. The CCIRM Cell must also ensure that when merging requests it does not lose accountability of the replaced RFI.

d. Prior to consolidation the CCIRM Cell searches established databases for available answers before prioritizing any new RFI.

e. After consolidation, the CCIRM Cell will have a composite list of IRs. Some of these RFIs are more important to mission success then others: therefore, the RFI Mgr must prioritize the list. This prioritizing enables the focus of assets on the most important requests, while economizing assets for less significant areas.

f. The CCIRM Cell must consider the following when prioritizing requests:

(1) **Justification**. Rationalization and determine the importance of the RFI to the current battle and CCIRs.

(2) **Specificity**. Scrutinize the request for detail and if possible refine to the most specific what, when and where questions.

(3) **Timeliness**. Determine the RFI precedence from when the latest time information is of value, and note the time when a reply will no longer be valid or pertinent.

g. Correlating intelligence reporting to the original RFI and evaluating the reports are key sub-functions. This is the quality control effort that helps ensure timely satisfaction of PIR/IRs. As collectors report, analysts receive the information they need to develop intelligence that can drive the commanders' decision.

h. RFI Management includes dissemination of reporting and related information to the original requestor and other users as required. All of these functions require a recording system that allows the CCIRM Cell to track the progress of each requirement and cross-reference incoming reports to outstanding requirements.

i. The CCIRM Cell must exercise caution regarding the release and dissemination of material in accordance with SOPs for appropriately classified material.

j. The CCIRM Cell must record who has received what information. It is not uncommon for a concerned user not to receive information, even though the information was marked for dissemination. Audit trails further optimize dissemination by ensuring that concerned users receive each report only once.

k. As planning or execution of a course of action evolves and as the threat situation develops, Commanders will generate new RFIs. The CCIRM Cell should ensure careful prioritization against the older RFIs rather then simply add them to the existing list. Similarly, the Cell must not simply discount the previous requirements; some may still be valid.

l. Collection Management is the methodology by which an organization or individual focuses the intelligence effort in support of the Commander's PIRs. The collection manager acquires the information that satisfies the Commander's IRs within specified timelines that support decisions. There are in essence six steps to the collection management process. They are as follows:

(1) **Develop Requirements**. Determine Commander's PIRs & IRs.

(2) **Develop Collection Plan**. Template of PIRs & IRs with list of agencies, sources, and units to be tasked or requested to provide intelligence or information to meet PIRs/IRs.

(3) **Request Collection**. Suggested taskings coordinated through ISTAR CC RFI Managers.

(4) **Disseminate**. Answers received and analyzed, then disseminated.

(5) **Evaluate Reporting**. Evaluation of information received against PIRs.

(6) **Update Collection Planning**. PIR answered/not answered. Suggest retasking, change PIRs, change collection taskings.

m. All PIR/RFI taskings from the ASC to National and Higher sources will be processed through CCIRM since they are responsible for coordinating and tracking requests and requirements.

n. The ASC must maintain and post a watch list, itemizing those issues for which immediate warning is required. I&W indicators should be integrated into the Intelligence Collection Plan. The watch list must be passed to and coordinated with equivalent organizations of higher and flanking formations. As one of the tenets of Warning is that it is most important when warning of previously unexpected actions, this list must never be considered to be all-inclusive.

29. **ASC SCIF**. The SCIF is the only TSSA certified facility within a Brigade and as such requires strict adherence to COMSEC and security requirements. It serves as a communications link between a Brigade HQ and National Intelligence sources regarding TSSA material. SCIF personnel will monitor and to a limited extent provide analysis of CFIOG and other Signals systems. It is vital that SCIF personnel have the authority to downgrade reports of interest and can release this intelligence on a need to know basis to key security cleared personnel. The SCIF will maintain the TSSA information access list.

ANNEX A

Ref: FSOP 109.13.2 REQUESTS FOR INFORMATION FORMAT

	Field	Example
A	Originator Identification	
A1	RFI Identification Number (Assigned by RFI Manager)	A1. (INT 001)
A2	Originating HQ or Cell	A2. 3 PPCLI BG
A3	DTG of submission	A3. 121300Z Mar 02
B	Latest Time Information of Value (LTIOV) (DTG)	B. 121800Z Mar 02
C	Information Required	C. What is current radiological hazard along ROUTE SEAGULL between GR 123456 and GR 234567?
D	Response Format (Text, Graphic, Imagery, Video, Any)	D. Graphic

CHAPTER 3
ISTAR ORGANIZATIONS AND THEIR RELATIONSHIPS

SECTION 1
GENERAL

1. There are two components to ISTAR: the *ANALYSIS* component and the *ACTION* component. The *ANALYSIS* component is the ASC while the *ACTION* component is the ISTAR CC. Everything entering the analyst table in the ASC should already have a first level analysis conducted by the sensor rep attached to the ASC, either physically or virtually. Second level analysis is conducted at the analyst table, where it is fused with other intelligence and then passed to the ISTAR CC. **Targeting data has the highest priority for passage from the ASC to the ISTAR Coridination Centre (CC)**. Although Geo and Met are resident in the Plans section, they must support both Plans and Current Ops.

SECTION 2
THE ISTAR COORDINATION CENTRE

2. The ISTAR CC is responsible for managing the collection efforts of the formation through the synchronous tasking and active retasking of collectors in support of the collection effort. These efforts include all collectors integral to the formation and those placed under its control.

3. This diagram represents a conceptual model of an ISTAR organisation in the Brigade HQ. The All-Source Cell is the central point for information collection and analysis (fusion). In this model, you can see the major functions of the All-Source Cell.

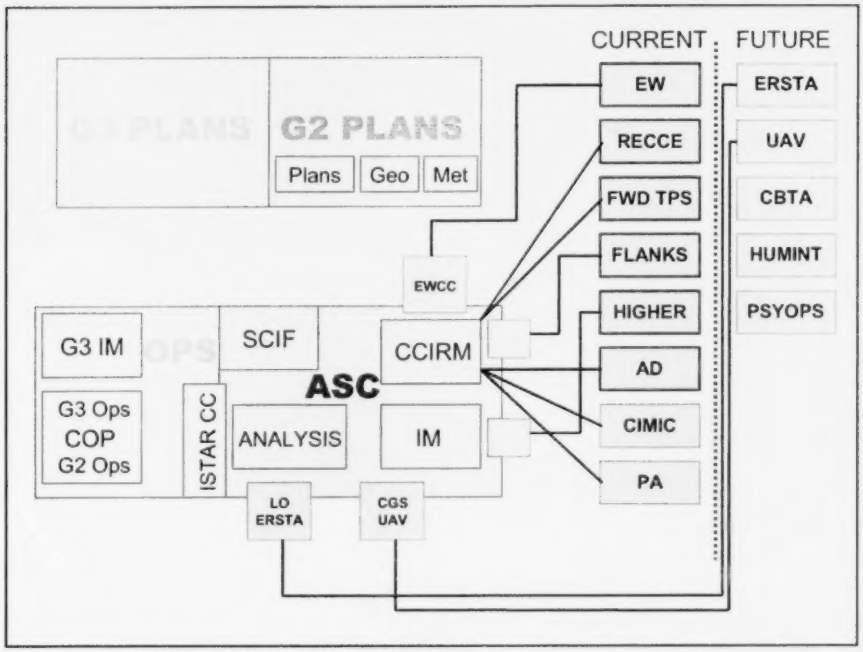

Figure 3-1: ISTAR Org in BDE HQ

4. All ISTAR information is fed directly into the ASC, however, time sensitive information must also be sent to the ISTAR CC with minimal delay for strike and/or sensor retasking. From the ASC, Red and Brown situational awareness (SA) is fed directly into the ISTAR CC. Due to its proximity to the ops station, the G2 has up-to-the-minute ops SITREPs, which allow the flexibility of ISTAR to be used to maximum effectiveness. Within the ISTAR function itself, there are a number of key players who perform a vital role in ISTAR operations. These personnel include:

a. **ISTAR Coord**. This is the officer in the ISTAR CC who acts as central authority for tasking or retasking decisions. The ISTAR Coord must have complete SA and be intimately familiar with the friendly CONOP. Normally, he is a member of the operations staff.

b. **G2**. The G2 is is the intelligence advisor to the commander, and he can act as ISTAR Coord.

c. **G2 Ops** is responsible for the overall functioning of the ASC, including ISTAR planning and execution.

d. **Plans Cell**. The bde Plans team consists of the G3 Plans, the G2 Plans, G4 Plans and all other coordination cell representatives. Assisting the G2 Plans are the Geomatics cell and the Meteorology cell in the execution of Intelligence Preparation of the Battlefield (IPB) and the input of weather and terrain to the enemy course of action assessments. This G2 Plans team coordinates its efforts with those of the ASC. This coordination consists of providing terrain analysis products and meteorological forecasts to the ASC so that the ASC can complete the picture of Brown SA. The Plans team also depends upon the intelligence produced by the ASC as the basis for the intelligence estimate.

Source	Field	ISTAR CC	ASC	Higher/ Lateral
EW/SIGINT	EW Sqn	EW Ops O	EWCC	SIGINT
Arty	Btys/FOO parties	FSCC	BAIO	
Recce	Recce Sqn	Comd Net/Recce Net ISTAR Coords	Comd Net/Recce Net	
Cbt Arms	Armd Regimental Recce Tp, Inf Coys, Recce Pl, Unit STANO	Comd Net, ISTAR Coords	Comd Net	
Engr	Fd Eng Sqns	ESCC	Engr IO	
CSS	S&T, Maint	Admin Net	Admin Net	
UAV		ASCC	CGS	
ERSTA	Tac Hel Sqn	ASCC	CGS	
HUMINT	HUMINT Pl		HUMINT LO	
IMINT			DIST	CFJIC
TECHINT			Virtual[3]	
MEDINT	Fd Amb		Virtual[4]	
MET			MET (G2 Plans cell)	
GEO			GEO (G2 Plans cell)	

Table 3-1: Typical Source Representation

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[3] Secondary duty for Int pers. Direct Support Battlefield TECHINT Teams may be deployed as required.

[4] Secondary duty for Int pers. MEDINT Specialists may be deployed as required.

e. **Brigade Artillery Intelligence Officer (BAIO)**. The BAIO is responsible for coordinating higher surveillance (UAV, counter mortar, counter battery) and is resident in the ASC.

f. **G3 Aviation/G3 Air**. At the ISTAR CC, these pers provide the advice and coordination for attack helicopter (AH), close air support (CAS) and joint air attack teams (JAATs). It is critical that these missions be coordinated with the FSCC and ASCC to avoid duplication of effort, prevent scattering of targets and reduce the risk of fratricide.

g. **Engineer Int**. Engineer Int is a very specialized task. The engineers must identify information requirements to the HQ staff for inclusion in the collection plan. Engineers provide the assets that conduct reconnaissance as well as the specialized skills to process and analyze engineer related information collected and report by various all arms sources.. However, general engineer information can be collected and reported by all arms. The products of engineer reconnaissance, which result in information related to both the enemy and the terrain, are essential to the COP. Copies of all engineer reconnaissance reports must be submitted to the ASC for inclusion in the COP. Since the ASC is responsible for Red and Brown SA, the ASC must coordinate closely with the ESCC to ensure that the results of engineer analysis are accurately incorporated into the COP and are accurately disseminated through the intelligence system.

h. **Attached Assets**. The multifaceted characteristic of the ISTAR CC allows any other asset (HUMINT teams, EW, STA Bty) to be plugged into the ASC with minimal disruption. Other integral assets, which are not physically attached to the ASC but are a key contributor to ISTAR, must be taken into account. These include combat arms, combat support and combat service support units, which collect information as part of their own conduct of operations. Some of this information, such as captured enemy equipment

(CEE) and captured enemy documents (CED), is a direct product of the execution of their own missions. Information is also collected as a result of an information collection task issued as part of the formation operations order. Additionally, information can be collected incidental to their operations, such as information on routes or civilian population movements, which can be gained during sustainment operations.

SECTION 3
THE ALL-SOURCE CELL

5. As already described, the role of the ASC is to provide analysis and collection coordination within the ISTAR system. It provides Red and Brown SA to the ISTAR CC to assist in coord of targeting and answers directly to the G2 in the ISTAR CC. The ASC does not have authority to physically move sensors since only the ISTAR CC, based on G2/G3 coordination, has the authority to move or retask sensors.

	SHIFT 1	SHIFT 2	SWING	REMARKS
ISTAR CC				Manning: 2-1-2
			G2	
	G2 Ops	G2 Ops WO		
Plotter/ Track Manager	Plotter/dvr Cpl	Plotter/dvr Cpl		
ASC				Manning: 2-3-8
ASC Duty Offr	Capt 82A	Lt 111		
Fusion Analyst	Sgt 111	MWO 111		
Fusion Collator/ Data Coord	Cpl/MCpl 111	Cpl/MCpl 111		
Plotter/ Track Manager	Cpl/Pte 111	Cpl/Pte 111		
CCIRM[5] Collection Manager	MCpl/Sgt 111 or 291 w/ Cbt Int trg	Cpl/MCpl 111 or 291 w/ Cbt Int trg		Data mining, ICP management, RFI manager for RFIs to higher (works PSSS/SPARTAN (STONEGHOST for Coalition ops)
Collection Coordinator			WO 111	

[5] Collection, coordination, and intelligence requirements management.

	SHIFT 1	SHIFT 2	SWING	REMARKS
IT Support	IS Tech/Sys Adm MCpl/Cpl	IS Tech/Sys Adm MCpl Cpl		
Plans				
	G2 Plans	Plans WO		Manning: 1-1-2
CCIRM Collection Manager	Cpl/MCpl 111 or 291 w/ Cbt Int trg	MCpl/Sgt 111 or 291 w/ Cbt Int trg		
				Manning: 5-5-12

Table 3-2: Suggested ISTAR CC/ASC Org

6. The ASC coordinates the continuous collection effort throughout the formation on behalf of the G2. This coordination function is executed by consolidating respective unit ISTAR plans and incorporating them into the formation plan. The ASC also requests information from national, higher and flanking sources and processes the information received from those sources. The ASC is responsible to the G2 for:

a. fusion of sensor data into a timely all-source product;

b. continuous updating of Red and Brown SA at the ISTAR CC and COP;

c. warning intelligence—constant vigilance is required for problems which were not originally included in the comd's PIRs;

d. collection, coordination, and intelligence requirements management (CCIRM) for the current battle;

e. minute-by-minute sensor management on behalf of the ISTAR CC;

f. continuous liaison with all sources to maximize synergy and overlapping coverage; and

g. constant update of sensor status and availability.

SECTION 4
SENSOR MANAGEMENT

7. The ASC may retask or refine tasks but may not move assets. The ISTAR CC shall be informed of all ASC originated

amendments/retaskings as they happen and shall retain authority to override or cancel.

8. **Sensor Tasking Changes**. Should the ASC determine that a change must be made to a sensor tasking, which is beyond that allowed above, the ASC Pl Comd must liaise with the ISTAR CC. The following questions must be answered before this is done:

a. Is there another way to get the data required?

b. Has preliminary liaison been effected with the sensor rep to determine if the change is even feasible?

c. Does the battle-pace allow for the retasked sensor to move?

d. Will failing to change the tasking have life and death consequences?

Example 1a. EW tasked to add a specific radar signature to its search tasks based on HUMINT reporting of SAM assets or to confirm a spurious imagery sighting of AD kit	OK
Example 1b. Recce ptl tasked to deviate from its patrol route in order to investigate same sighting	**NOT** OK
Example 2a. UAV flight path changed to assess precise origin of radar emission detected by ELINT	**NOT** OK
Example 2b. UAV GCS operator asked to adjust look angle of camera without altering UAV flight path in order to assess precise origin of radar emission detected by ELINT	OK

Table 3-3: Sample ASC Retasking Situations

9. Requirements for changes should be assessed to determine scope for improvements in future planning and assessment.

SECTION 5
ISTAR COORDINATION CENTRE LAYOUT IN A BRIGADE HEADQUARTERS

10. In its present form the ISTAR CC is an integral part of bde HQ and is located next to the ops table. This allows for the fusion of operations and intelligence in order to maximize targeting effects

while minimizing the risk of fratricide. The set-up of the bde CP and the tasking flow is demonstrated below:

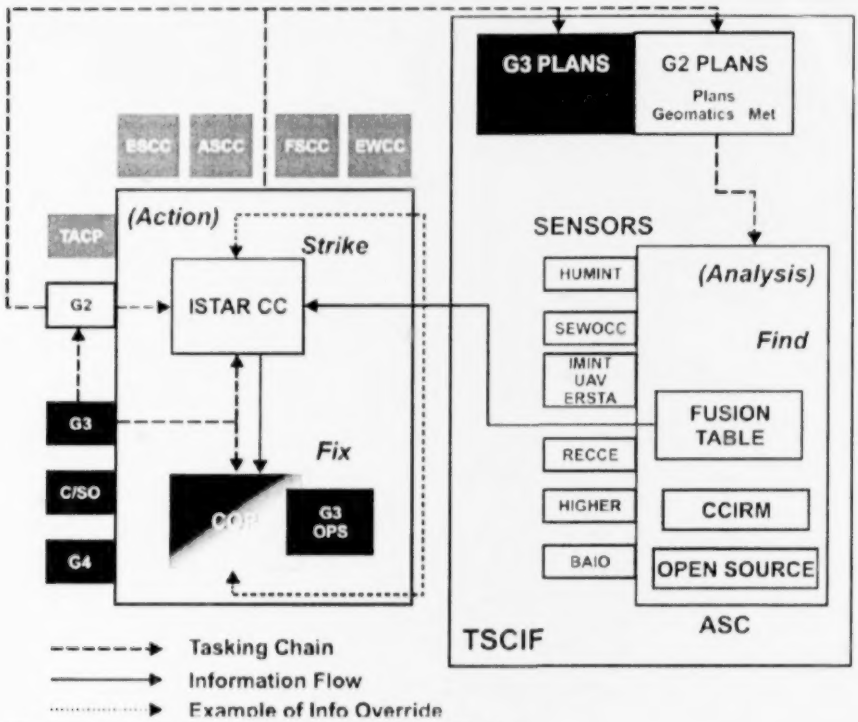

Figure 3-2: 1 ISTAR CC Tasking Chain

NOTE

While the ASC can be physically separate from the ISTAR CC (a requirement imposed by footprint required for the ASC as well as security levels of material processed), the ASC will be adjacent and is subordinate to the ISTAR CC for command support and sense.

SECTION 6
ALL-SOURCE CELL REPORTING

11. Sensor reporting will normally be direct through the sensor's chain of command to the ASC fusion table. The ASC has two important duties which must be balanced against each other continuously:

a. ensure timely flow of significant amounts of *accurate* information and intelligence; and

b. prevent information overload at the ISTAR CC and COP.

12. The ASC fusion table will provide a continuous update of SA data and intelligence to the ISTAR CC and COP. This data will primarily be in the form of graphical map updates, which are refined as information is focussed or additional intelligence is derived. Prior to reporting being passed to the ISTAR CC and the COP, the fol questions should be satisfactorily answered:

a. Is the information relevant?

b. Is the information of an acceptable reliability?

c. Is the information of sufficient granularity to add knowledge to the COP?

d. Is the information timely?

13. Data that does not meet the above criteria should be held for further amplification, explanation or confirmation.

SECTION 7
BYPASSING OF NORMAL PROCESSING

14. Information which may have an immediate effect on the tactical situation, or which may require the commander to make immediate decisions, must be transmitted in a more immediate way. Information which meets any of the following criteria must be considered for immediate passage:

a. positive reporting regarding weapons of mass destruction (WMD);

b. data which is of direct benefit to the targeting process;

c. reporting which indicates an immediate threat *increase* to deployed troops, likely to result in casualties if action is not taken;

d. reporting which significantly changes collateral damage risks to active targets (e.g., report of children in buildings previously assessed as unoccupied); and,

e. reporting which significantly changes previously assessed enemy capability, intent, or coarse of action (COA).

15. **Watch List**. The ASC must maintain and post within the ASC complex a watch list, itemizing those issues for which

immediate warning is required. Indications and warning (I&W) should be integrated into the intelligence collection plan (ICP). The watch list must be passed to and coordinated with equivalent organizations of higher and flanking formations. As one of the tenets of warning is that it is most important when warning of previously unexpected actions, this list must never be considered to be all-inclusive.

16. When either the ASC and/or a sensor obtains information or derives intelligence that warrants immediate passage, it shall be passed immediately to the ISTAR CC. This does not relieve the ASC and individual sources from the requirement to continue further developing this data into a normal update and fully analyzed end product.

SECTION 8
TARGETING

17. The targeting cycle (decide, detect, deliver, assess) must be closely integrated with the ISTAR information flow in order to ensure effective and timely exploitation of information. The targeting cycle is a continuous process, which requires flexibility and timely response to be effective. The following staff have a direct involvement in the targeting cycle:

a. **FSCC**—normally coordinates targeting activity (i.e., deliver).

b. **ESCC**—assist in coordinating targeting and BDA activity. Destroying infrastructure targets may limit the military options for an enemy in the short term but may create significant limitations on own forces in the long term. Engineer input may assist in effects based targeting by denying rather than destroying targets. Engineers can identify alternative targets that create similar effects without consequent limitations and cost. Emplacement of scatterable mines or a reserve bridge demolition, to hinder enemy mobility, are examples of targeting advice.

c. **ASCC**—coordination of air assets, provision of battle damage assessment (BDA) from air assets (i.e., deliver and assess).

d. **ASC**—provision of timely target intelligence. Collection assets, particularly UAV and imagery, may be tasked to carry out BDA. Unsolicited information that has value from a BDA

perspective must also be passed into targeting cycle (i.e., detect and assess).

e. **G3**—coordinates overall application of force (i.e., decide and deliver).

f. **G2**—ensures target locational data is passed to appropriate authorities. Assists G3 in determining target values and vulnerabilities (i.e., decide, detect and assess).

g. **G2 Plans**—development of high value target (HVT) and high payoff target (HPT) lists (i.e., decide).

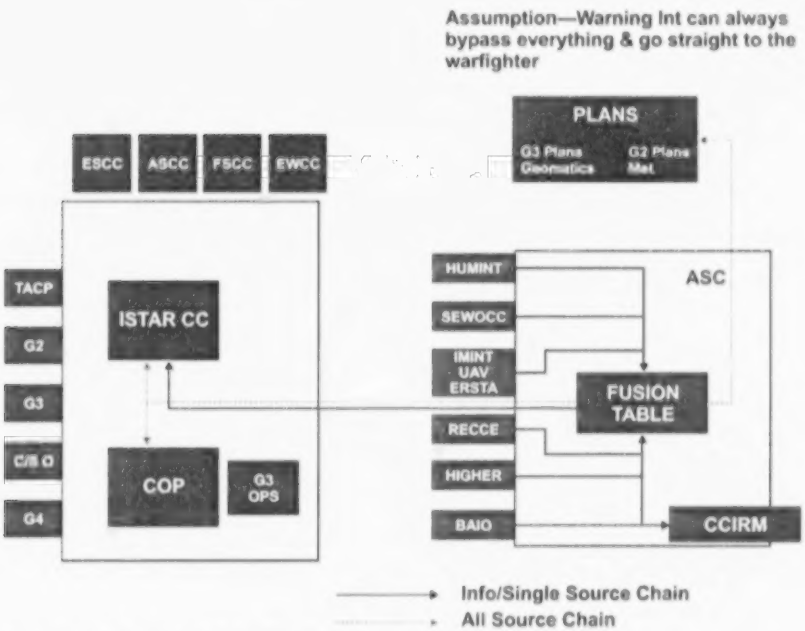

Figure 3-3: ISTAR Data Flow

CHAPTER 4
CHARACTERISTICS AND EMPLOYMENT OF ISTAR COLLECTION ASSETS

SECTION 1
INTRODUCTION

1. The term ISTAR is used to refer both to the operational process and to the personnel, assets and architecture involved in the process. The entire range of assets should be considered during the operational planning process (OPP) for any deployment. On most operations, though various issues may prevent the commander from employing all possible assets, an effort must be made to fully exploit the range of capabilities to ensure that a synergistic "mix" is deployed. Attention must also be given to non-specialist assets organic to the deployed organization. Again it is stressed that ISTAR does not replace the asset owner's tactical control. Assets which must be considered and which will be discussed below include:

a. artillery (arty) assets;

b. reconnaissance squadron;

c. armoured regiment;

d. infantry, to include:

e. sniper detachments,

f. recce platoon, and,

g. rifle companies;

h. engineer assets;

i. combat service support (CSS);

j. electronic warfare (EW);

k. unmanned aerial vehicle (UAV);

l. electro-optical reconnaissance, surveillance and target acquisition (ERSTA);

m. air;

n. air defence (AD);

o. human intelligence (HUMINT);

p. imagery intelligence (IMINT) or defence imagery support team (DIST);

q. technical intelligence (TECHINT); and,

r. medical intelligence (MEDINT).

SECTION 2
ARTILLERY ASSETS

2. **General**. The role of artillery is to assist in the defeat of the enemy with indirect fire as part of the all-arms battle. With its intrinsic flexibility, field artillery can be brought to bear on deep, close and rear operations simultaneously if necessary. It must be synchronized with other battlefield activities in terms of time, space and purpose to achieve the optimum concentration of force. Target priorities must be established, and artillery must be used aggressively in concert with other firepower assets and intelligence, surveillance, target acquisition and reconnaissance (ISTAR) resources.

3. Two aspects of artillery ISTAR capability are implicated directly in the operation of the All-Source Cell (ASC) and the ISTAR Coordination Centre (ISTAR CC):

a. locating artillery; and

b. the Fire Support Coordination Centre (FSCC).

4. Locating artillery is responsible for:

a. target acquisition;

b. direction of fire;

c. combat surveillance;

d. artillery intelligence;

e. survey; and

f. meteorological data.[6]

5. The FSCC is employed so that each indirect fire asset is used to the best advantage, in the most effective and efficient manner and such that all conflicting demands are resolved. Careful

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[6] B-GL-371-003/FP-001 *Field Artillery Operational Procedures*.

coordination of all fire support resources must be carried out in accordance with the following guidelines:

a. Requests for fire support must be assigned to the agency that can deliver the most effective fire in time.

b. Fire support requests and calls for fire must be submitted directly to the agency that will deliver the fire.

c. The effects of fire support furnished must meet the wishes of the supported arms commander. If the commander's request cannot be met, viable alternatives must be suggested and provided.

d. Care must be taken to prevent fratricide.[7]

6. **Advantages of Artillery**:

a. Artillery personnel are likely able to provide excellent advice when dealing with intelligence problems relating to enemy indirect fire systems.

b. Forward observation officer (FOO) parties, trained observers located well forward with good observation equipment and good comms, are ideally placed to report on enemy artillery near the forward edge of the battle area (FEBA).

c. FOO parties can often provide battle damage assessment (BDA) data immediately after indirect fire and CAS missions.

7. Artillery roles in the ASC. The BAIO is located in the ASC with one additional officer to act as a duty officer, plus technicians and communicators.[8] There will be one officer, one senior technician and a junior technician/communicator on duty at all times. This cell is provided from the locating troop of the field regiment. The BAIO, located in the ASC, provides:

a. hostile battery (HB) lists;

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[7] B-GL-371-003/FP-001 *Field Artillery Operational Procedures*, Chapter 4.

[8] B-GL-371-003/FP-001 *Field Artillery Operational Procedures*, Chapter 15, paragraph 17.

b. weapon density overlays;

c. artillery intelligence summaries (arty INTSUMs);

d. artillery supplementary intelligence reports (arty SUPINTREPs);

e. SITREPs and INTREPs, as required;

f. advice and liaison to the collection planning process; and,

g. BDA data, by liaising with FOO parties.

8. Artillery Assets at the ISTAR CC. The FSCC is located at the brigade (bde) HQ as a part of the ISTAR CC.

9. ASC Responsibilities to the BAIO. The ASC shall ensure that the BAIO is provided and continually updated with:

a. working space;

b. locations, capabilities and ORBAT of all known enemy arty assets;

c. the commander's priority intelligence requirements (PIRs);

d. the information operations (IO) plan; and

e. the ISTAR plan.

SECTION 3
RECONNAISSANCE SQUADRON

10. **General**. Reconnaissance is a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy or to secure data concerning the meteorological, hydrographic or geographic characteristics of a particular area. Doctrinally, brigade level reconnaissance assets are lightly armed for self-protection, mounted in fast and agile vehicles, equipped with extensive radio communications and organized to operate a large number of sub-units executing covert reconnaissance. Although the reconnaissance squadron (recce sqn) will be an integral part of the armoured regiment in garrison, in operations it will normally operate independently under the direct control of the brigade commander. The recce sqn is required to provide information to the brigade commander, and most tasks will involve reconnaissance or

surveillance. Without important augmentation in firepower, the recce sqn has almost no capability to impose delay on a determined enemy. It can observe, report, maintain contact and provide warning but little more.

11. **Categories of Reconnaissance**. Land force reconnaissance is categorized as follows:

a. **Combat Reconnaissance** is the collection of information by combat arms elements within battle groups in the course of close combat with the enemy.

b. **Close Reconnaissance** is conducted by a battle group or brigade group headquarters on specific tasks within their areas of influence. This is the domain of the brigade reconnaissance squadron and of infantry reconnaissance platoons.

c. **Medium Reconnaissance** is conducted by reconnaissance units under the direct control of a higher formation headquarters. The range of operations could extend to the limits of the formation's area of interest with the purpose of determining the location, composition and disposition of enemy reserves, nuclear delivery means and supporting troops that can influence the immediate battle.

d. **Long Range Reconnaissance** involves the collection of information beyond the limits of medium range reconnaissance. Special units will normally conduct long range reconnaissance.

12. Advantages of the recce sqn include the following:

a. **Mobility**. The recce sqn can move by roads or cross-country in any terrain that is passable by the brigade. Unit personnel are capable of foot patrolling; however, such operations separate the crews from their vehicles and hinder subsequent mobility.

b. **Flexibility**. The recce sqn's mobility, coupled with its extensive communications, are the keys to operational flexibility. This permits reassignment

of tasks, quick deployments and the rapid execution of diverse taskings.

c. **Logistic Economy**. With its inherent administrative echelon and the range of its vehicles, the recce sqn is capable of extended operations with a minimum of logistic support.

13. Disadvantages of the recce sqn include the following:

a. **Lack of Firepower**. This precludes fighting for information or the execution of guard or delay missions without augmentation in firepower.

b. **Vulnerability in Close Quarter Fighting**. Because of the noise of the vehicles and the limited manpower available for dismounted patrolling, the recce sqn is extremely vulnerable in, or on the periphery of, built-up areas or woods. Supporting infantry is required to provide protection.

c. **Endurance**. The recce sqn has no spare crews. Prolonged operations, situations of continued stress and casualties will rapidly become limiting factors.

d. **Reserve**. It will seldom be possible for the recce sqn to retain a strong reserve.[9]

e. **Deployment Time**. Coming into and out of action requires 20 to 40 minutes for either operation when deploying the Coyote sensors. These timings must be taken into account when executing the ISTAR plan.

14. The recce sqn provides reporting through established comms nets, which are monitored by the ASC.

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[9] B-GL-394-002/FP-001 *Armour, Volume 2, The Reconnaissance Squadron in Battle*.

15. Recce Sqn in the ISTAR CC. In a brigade deployment, the recce sqn will not normally have a permanent physical presence in the ISTAR CC or at the ASC. The recce sqn laison officer (LO), representing officer commanding (OC) recce sqn, is the brigade comd's recce advisor. The recce sqn LO, or the OC recce sqn will attend the ISTAR coord meetings. The recce sqn's presence in the ASC is virtual: ASC staff will be required to monitor the recce net.

16. ASC Responsibilities to the Recce Sqn. It is vital that close liaison be maintained with the recce sqn HQ. The following must be available to the recce sqn at all times:

a. the commander's PIRs;

b. the ISTAR plan;

c. Red SA;

d. Brown SA;

e. Blue SA, with due consideration given to operational security (OPSEC); and

f. debriefing assistance when required.

SECTION 4
ARMOURED REGIMENT

17. The Reconnaissance Troop is the only dedicated reconnaissance element in the regiment. The troop may be employed on reconnaissance, surveillance, security or other tasks, reporting directly back to RHQ, or it may be placed under command or in support of one of the squadrons, either in total or by patrols.

18. Typical tasks for the troop include:

a. reconnaissance of counter-attack and blocking routes;

b. advance, flank or rear area surveillance;

c. acquiring terrain (going) information for the tanks;

d. maintaining contact with the enemy;

e. surveying chemical or radiological contamination;

f. traffic control;

g. protection of RHQ;

h. liaison duties; and

i. communications tasks.

19. The troop shares the advantages of all armour assets, firepower, protection, mobility, flexibility and ability to hold ground. In ISTAR terms, this asset can move, fight and report making it a durable and flexible reconnaissance platform.

SECTION 5
INFANTRY

20. **General**. The function of Infantry is to close with and destroy the enemy. For the purposes of ISTAR, experience has demonstrated that infantry assets, due to their widespread position on the battlefield, are ideal sources of information

21. **Infantry Assets**. Whether a battle group or brigade sized operation, the following assets will likely be available:

a. Capable of limited independent action, infantry companies can conduct various types of patrol activity, from company to detachment size.

b. Reconnaissance platoon (recce pl), consisting of patrol and sniper detachments, equipped with higher fidelity observation equipment and specialist training, which permits recce pl detachments to carry out long-range patrol activity similar to that carried out by allied nations SOF.

22. **Infantry Employment**. Infantry elements can provide valuable information through:

a. ops;

b. patrols;

c. contact reports; and

d. SITREPS.

23. Infantry soldiers, in particular members of recce pls, are trained to observe. Sound tactical knowledge and experience often make them the best judges of the significance and implications of target activity at a tactical level. This asset has a 24/7, day/night capability which must be exploited wherever possible.

24. Infantry Roles in the ASC. Infantry presence in the ASC is virtual. The ASC staff will be required to monitor the comd net. Contact reports and SITREPS form a critical part of Red SA.

25. Liaison with infantry units and assets will occur through the G3 Ops.

26. Patrol (ptl) debriefings will normally be conducted by the Battle Group Intelligence Officer (BG IO) except as noted below.

a. Where a ptl is tasked at the ISTAR CC level, it may be required to provide briefing and debriefing at the ASC. Specific questions that the ptl is to answer must be coordinated with ops staff and be passed to them as soon as practicable. To be effective, this must be scheduled early during the planning stages. Soldiers must know ahead of time that their observations will have value and that they will be required to report them. Failing to plan ahead for patrol debriefs leads to missed opportunities, missed details and disgruntled soldiers.

b. Patrol debriefings must be ready for the ptl on its return. They will normally be conducted by the ASC duty offr/WO. It is critical that the fol be kept in mind:

(1) Relevant specialists (Engr Rep, BAIO, etc.) must be aval and awaiting the ptl on its return.

(2) Questions must be prepared in writing ahead of time.

(3) Operational security (OPSEC) must be kept in mind. Most patrol members will NOT be cleared.

c. All patrols must be provided with the best possible intelligence support. Poor intelligence support will lead directly to casualties and failures; Good intelligence preparation of patrols is one of the best investments the ISTAR CC can make.

27. It is important to remember that while infantry is a valuable source, they are also the comd's primary asset, and the ISTAR CC is thus there to support them—not vice-versa.

SECTION 6
ENGINEER ASSETS

28. **General**. Engineer intelligence is the product resulting from the processing of information concerning enemy engineer operations and resources, environmental conditions, military geographic information and terrain required by a commander in the planning of combat. Engineer intelligence is but one element of the intelligence system. Engineer information may be collected and reported by all arms, ISTAR gathering systems, as well as integral engineer recce. Many items of engineer intelligence are of interest to other agencies, and similarly, many items of combat intelligence or information are of interest to engineers. Engineer intelligence forms an integral part of the intelligence preparation of the battlefield (IPB) process and is used by the engineer commander and engineer staff to:

a. advise the commander and respective staff on the effects that the terrain and weather may have on enemy and friendly force mobility;

b. advise the commander and respective staff on the use of friendly engineers;

c. provide a list of IR related to enemy engineer activities and terrain that will be indicative of enemy intent, provide greater SA and help define plausible enemy COA

d. estimate the extent to which the enemy's engineers may affect the tactical plan and devise methods of countering this threat; and

e. identify critical local resources that could be essential to support either the enemy or friendly force operations.[10]

29. **Engineer Function**. The planning for the employment of engineers is an integral part of the commander's plan. It is therefore essential that the engineer commander is included in planning from the beginning to ensure that the engineer effort is synchronized with other plans. In conjunction with the G2, the engineer commander, using the whole or part of the IPB process, should advise the

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[10] B-GL-361-001-FP-001 *Land Force Engineer Operations*.

commander on the terrain and how it can best be used to achieve the commander's aim. When possible, the engineer commander should be present when the commander receives new directives from the superior headquarter. This allows planning to begin immediately and allows the engineer commander to be aware of and understand the superior commander's intent, including the engineer intent to better advise the commander and staff during the commander's mission analysis.

30. **Engineer Assets**. There are several resident elements within the engineer organization that can contribute to the ISTAR effort. Specific to a Bde the following is available:

a. **Brigade Engineer Staff**. A portion of the Combat Engineer Regiment (CER) regimental headquarters with an operation, intelligence and geomatics capability forms the engineer staff of the ESCC at brigade headquarters. The engineer staff forms an integral part of the brigade staff and is responsible for planning operations at formation level, monitoring current operations, coordinating all engineer matters with the brigade staff and higher and flanking formations

b. **BG Engineer Staff**. In a similar but lesser capacity (no Intelligence and Geomatics specialists on staff), the engineer Close Support Squadron provides a BG Engineer cell to the supported BG/Bn Gp HQ.

c. **Engineer Recce**. Dedicated engineer Recce is resident at all levels (regiment, squadron and troop). Engineer recce can work independently or in conjunction with other Bde recce assets. Regimental HQ Recce Tp assets could be dedicated to regiment tasks or be attached to Bde Recce Sqn. Engineers provide the unique capability of inland underwater diving.

31. **Advantages of Engineers**. The Engineer Support Coordination Centre (ESCC) can advise the ISTAR CC on terrain issues that may effect the planning of targeting. For example, detailed recce of bridges or crossing sites is an engineer task. The ISTAR CC will provide information to and request information from the ESCC.

32. **Engineer Synchronization with the ISTAR CC**. The ISTAR CC is assisted by the ESCC engineer staff and the Geomatics Support Team (GST). The GST works in close concert with the G2 to develop terrain analysis and visualization products. The same products are utilized to assess optimal placement of sensors and other ISTAR assets, for example providing information on lines of sight. The ESCC, led by the unit Operations Officer (Ops O), will provide the necessary input and requests for ISTAR operations.

33. **Engineer Synchronization with the ASC**. The ESCC has a small intelligence staff led by the unit Intelligence Officer (IO). The IO will be responsible to provide the necessary engineer input into G2 Plans cell and ASC operations to enable the fusion process as well as to assure the assessment of engineer related PIRs and IRs.

SECTION 7
COMBAT SERVICE SUPPORT

34. Combat service support includes support services such as vehicle maintenance, transport and logistics troops. The primary mission of CSS is to maintain the combat effectiveness of combat arms units. CSS units are the life-line of a brigade group dependant upon MSRs within the AO. Therefore, CSS elements will travel extensively throughout the AO, primarily on MSRs, and are potentially positioned to provide information on enemy activity on or near these MSRs.

35. Combat service support assets which may be able to provide useful ISTAR input include:

a. **Military Police**. With security and traffic control responsibilities, military police can be found throughout the rear area.

b. **Medical**. Medical personnel are found throughout the AO and often interact with local populations as well as injured prisoners of war. While the use of medical personnel to actively collect intelligence related information has legal implications, they can be effective observers of activity which may have an impact on force security as well as collectors of data relating to medical threats and risks (see MEDINT).

c. **Supply and Transport**. By their very nature, supply and transport personnel become familiar

with the complete AO. As a result, they should be given a list of what type of indicators of enemy activity to look for.

d. **Maintenance**. Found throughout the AO, maintenance personnel have specific technical training that may be useful in dealing with captured enemy equipment (see TECHINT).

36. Combat service support is not physically represented in the ASC. Normal reporting shall be through established admin and comd nets. Through the ISTAR Matrix, provide specific collection tasks to CSS assets that can be performed as part of their normal duties.

37. **Special Remarks**. Medical and chaplain staff cannot be used in the active collection of information due to legal and ethical implications.

SECTION 8
ELECTRONIC WARFARE

38. **General**. Electronic warfare (EW) is the military action to exploit the electromagnetic (EM) spectrum, which encompasses the interception and identification of EM emissions, the employment of EM energy, including directed energy, to reduce or prevent hostile use of the EM spectrum and actions to ensure its effective use by friendly forces.

39. The three components of EW are:

a. electronic warfare support measures (ESM);

b. electronic countermeasures (ECM); and

c. electronic protective measures (EPM).

40. **Electronic Warfare Support Measures**. Electronic warfare support measures (ESM) are defined as that division of EW involving actions taken to search for, intercept and identify EM emissions and locate their sources for the purpose of immediate threat recognition. It provides a source of information required for immediate decisions involving ECM, EPM and other tactical

Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) actions.[11] It also provides information that contributes to the overall signal intelligence (SIGINT) effort.

41. Electronic warfare support measures systems collect data and produce information or intelligence which can be used to:

a. contribute as a "single source" of information for the production of Red SA within the ISTAR system;

b. provide targeting information for ECM operations;

c. initiate self-protection measures;

d. support EPM efforts;

e. create or modify EW/SIGINT data bases; and.

f. provide warning to the supported commander.

42. **Electronic Countermeasures**. Electronic countermeasures (ECM) are defined as that division of EW involving actions taken to prevent or reduce an adversary's effective use of the EM spectrum through the use of EM energy. There are three subdivisions of ECM[12]:

a. **Electronic Jamming**. The deliberate radiation, re-radiation or reflection of EM energy with the object of impairing the effectiveness of electronic devices, equipment or systems being used by an adversary.[13]

b. **Electronic Deception**. The deliberate radiation, re-radiation, alteration, absorption or reflection of EM energy in a manner intended to confuse, distract or seduce an adversary or his electronic systems.[14]

c. **Electronic Neutralization**. The deliberate use of EM energy to either temporarily or permanently

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[11] MC 64

[12] MC 64

[13] MC 64

[14] MC 64

damage an adversary's devices that rely exclusively on the EM spectrum.[15]

43. **Electronic Protective Measures**. Electronic protective measures (EPM) are defined as that division of EW involving actions taken to ensure friendly effective use of the EM spectrum despite the adversary's use of EM energy. There are two sub-divisions of EPM:

a. **Active EPM**. Detectable measures, such as altering transmitter parameters as necessary, to ensure friendly effective use of the EM spectrum.

b. **Passive EPM**. Undetectable measures, such as operating procedures and technical features of equipment, which are meant to ensure friendly effective use of the EM spectrum.[16]

44. **EW Assets**. Electronic warfare (EW) assets will vary depending on the mission and operational environment but will include at least:

a. an ESM suite capable of providing localized force protection and limited EW reporting; and

b. connectivity to national and allied EW/SIGINT assets.

45. As EW involvement in brigade level operations is scalable and task-tailored, specific deployments will vary dramatically. As an indicator of potential capability, however, a full EW squadron consists of:

a. up to two wheeled and/or armoured baselines of four vehicles each capable of providing ESM coverage throughout the bde area of interest;

b. up to four heavy ECM vehicles capable of providing electronic attack (EA) into the bde AO;

c. a limited capability to conduct dismount operations;

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[15] MC 64

[16] MC 64

d. an ability to conduct limited surgical EA from within the baseline (of note, conduct of EA will require these assets to relocate and will thus disrupt friendly ESM efforts); and

e. an ability to conduct electronic intelligence (ELINT) activities.

46. Electronic warfare support measures personnel have a number of standing tasks, usually prioritized as follows:

a. provide tactical indications and warning intelligence (I&W) to the supported commander;

b. provide strategic I&W to higher commander;

c. respond to the supported commander's PIRs; and

d. respond to higher commander's PIRs.

47. Although the above reflects tasks which may not be of direct benefit to the supported commander, the offset is the leverage gained from tying into the global EW/SIGINT communications system and the direct support of linguists and analysts at the national level.

48. **EW Roles in the ASC**. The point of contact for EW assets (to include SIGINT) is the Electronic Warfare Coordination Centre (EWCC). An EWCC attached to an ASC shall provide a 24/7 presence at the fusion table and shall be responsible for:

a. providing the ASC with timely EW and SIGINT product with completed first-level analysis;

b. assisting in integrating EW baseline reporting;

c. assisting in integrating SIGINT reporting;

d. attending ISTAR coord meetings (usually the EW Ops O);

e. providing steerage and direction to the EW baseline;

f. providing liaison with higher SIGINT assets;

g. liaison with the FSCC for the purpose of conducting EA; and

h. liaison with CI/G6/G2 staff regarding COMSEC activities as required.

49. **EW Assets in the ISTAR CC**. The EWCC shall provide connectivity to integral and attached EW assets as well as higher SIGINT authorities. Within the ISTAR CC proper, EW is normally represented by the EW duty ops o, who is responsible for the operational employment of EW assets.

50. **Personnel and Footprint**. The EWCC consists of at least one light wheeled vehicle but may consist of up to two medium/heavy logistic vehicles wheeled (M/HLVW). One vehicle is expected to attach to the ASC complex; the second vehicle, if present, may be remoted by fibre but for security reasons must remain within the secure area.

51. The G2, through his ASC staff, shall ensure that the EWCC is provided and updated with:

a. the commander's PIRs;

b. the IO plan;

c. the ISTAR plan; and

d. bde/formation/BG Communications-Electronics Operating Instructions (CEOI) .

SECTION 9
UNMANNED AERIAL VEHICLES

52. **General**. Unmanned aerial vehicles (UAVs) operate at a variety of altitudes and are used for reconnaissance, surveillance and target acquisition. UAVs can deploy to high risk areas where the air defence threat has not been completely suppressed, mountainous terrain and areas of contamination without risking the lives of air crew or soldiers on the ground. UAVs can offer extensive loiter times, which enables the ASC to verify deception methods being utilized by the enemy and to refine battle tracking.

53. **UAV Employment**. Unmanned aerial vehicle missions must be decided upon early during the planning phase of ISTAR operations. This will allow the UAV troop/bty staff time to conduct mission planning and provide input to the appropriate airspace control measures. UAVs are ideally employed on tasks that are too deep for assets on hand, too dangerous for ground recce troops or in areas where terrain or weather prevents ingress from the ground.

54. Unmanned aerial vehicles provide a birds-eye view of the battlefield and are capable of employing a variety of sensor

packages. As a result UAVs can provide deep coverage while maintaining flexibility during operations.

55. Unmanned aerial vehicles can be shot down by enemy air defence assets. They are limited by weather and, at the tactical level, the use of a UAV may telegraph the commander's intent to the enemy.

56. **UAV Guidance and Control Section Roles in the ASC**. When a defence imagery support team (DIST) is provided, liaise with the IMINT specialist to ensure synergy in analysis and effective allocation and exploitation of imagery targets.

57. **ASC Responsibilities to the UAV Troop**. The UAV tp HQ vehicle or analysis van will be provided a space within the ASC. Further, the ASC will provide:

a. the commander's PIRs;

b. the IO plan;

c. the ISTAR plan;

d. known enemy air defence locations; and

e. met data as required.

SECTION 10
AIR DEFENCE[17]

58. **General**. Air defence (AD) encompasses equipment provided for target acquisition, fire distribution and control, communications, and movement, which are necessary for the effective employment of AD weapons.

59. An effective AD system must:

a. detect, acquire, and identify a target;

b. intercept it; and

c. destroy or neutralize it before its weapons are released.

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[17] Air Defence Artillery doctrine is outlined in B-GL-372-001/FP-001 *Air Defence Artillery Doctrine*.

60. Air defence assets normally deploy with integral radar surveillance capability. Air defence anti-tank system (ADATS) have the ability to engage ground targets.

61. The AD surveillance plan is combined into an overall ISTAR plan in conjunction with field artillery, signals, EW and intelligence. The AD surveillance policy will include specific guidance for the deployment and operation of AD radars and overall guidance for the operation of individual weapon system integral sensors.

62. An outline plan will be formulated using all available information concerning the air threat, ground threat, the supported commander's plan, the air approaches, data requirements and sensor information available from higher resources. Each level of command will then be tasked to provide coverage of an area of responsibility.

63. With specialized sensors and their own integral communications system, AD provides the only integral asset whose primary task includes observation of the local air picture.

64. ADATS, when deployed one tactical bound behind lead manoeuvre elements provide a significant, far-reaching observation asset forward. ADATS deployed as flank guard against enemy helicopters provides flank observation platforms. Air defence equipment and deployment, often in rear areas, provides a significant value added for surveillance of rear areas.

65. Radar is an active sensor, which can be detected by enemy ELINT assets. Use of radar may therefore be restricted by emission control (EMCON) policy.

66. **AD Roles in the ASC**. Air defence will not normally have a permanent physical presence in the ASC. Continuous liaison with the ASCC is critical to ensure that information gathered by AD assets is effectively passed and integrated. By default, the AD arty commander gathers information on the following PIRs:

a. enemy air/aviation organization and strength;

b. employment of air/aviation resources;

c. air approaches;

d. likely enemy intentions; and

e. likely enemy activities.

67. The Brigade Air Defence Cell (BADC) forms an integral part of the ASC.

68. The ASC shall ensure that the air defence cell of the ASC is provided and continually updated with:

a. locations, capabilities and ORBAT of all known enemy air assets;

b. the commander's PIRs;

c. the IO plan;

d. met data as req; and

e. the ISTAR plan.

SECTION 11
HUMAN INTELLIGENCE

69. **General**. Human intelligence (HUMINT) is a category of intelligence derived from information collected and provided by human sources.[18]

70. The field HUMINT team may conduct the following activities in support of contact operations:

a. debriefing of displaced persons, refugees or local civilians;

b. exploitation of foreign documents;

c. support to interrogation;

d. debriefing of coalition or Canadian military personnel;

e. liaison with local law enforcement and foreign military personnel;

f. collection and dissemination of hand-held imagery; and

g. conducting limited HUMINT analysis.

71. **HUMINT Assets**. A field HUMINT pl consists of 4 offr and 39 other ranks divided into three teams of two sections each,

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[18] AAP-6 *NATO Glossary of Terms and Definitions*.

with a pl HQ and ops centre. Unlike most other sources, which tend to be technical in nature, HUMINT is a source for tactical socio-cultural intelligence that can be critical to mission success.

72. Human intelligence is particularly susceptible to deception and counter-intelligence (CI) efforts. As such, all HUMINT material requires confirmation from other sources. Human intelligence may in some instances be misconstrued, due to cultural and linguistic factors, as "espionage." This applies both to potential interviewees and opposing forces. This has significant impacts on operational security (OPSEC), the risk to interviewees and their motivations.

73. **The HUMINT LO in the ASC**:

a. provides the ASC with timely HUMINT product with completed first-level analysis;

b. tasks HUMINT teams on behalf of the G2;

c. provides other source steerage to HUMINT teams;

d. assists in debriefing processes;

e. assists in integrating HUMINT product into the all-source product at the ASC;

f. ensures HUMINT activities are deconflicted with other ISTAR activities; and

g. provides liaison with higher and flanking HUMINT activities.

74. The HUMINT LO, normally resident in the ASC, will attend ISTAR Coord as req. The ASC will provide the HUMINT LO with working space. The HUMINT LO is normally expected to work at the system high security level.

SECTION 12
IMAGERY INTELLIGENCE

75. Imagery intelligence (IMINT) is intelligence derived from the analysis of any image acquired by photographic, radar, electro-optical (EO), infra-red, thermal and multi-spectral sensors. It is an important element of the all-source intelligence capability at the strategic, operational and tactical levels.[19]

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[19] B-GL-357-001/FP-001 *Intelligence Field Manual.*

76. Although IMINT covers a wide range of activities and material, this section will deal primarily with the defence imagery support team (DIST).

77. The Deployed Imagery Support Team (DIST) is a deployable capability consisting of one to three pers with integral high-bandwidth IT/comms connectivity, providing access to national level IMINT and imagery, specialist field analysis and exploitation of imagery (a/c gun camera and Head-up Display [HUD] recorded footage, hand-held photography, etc.). While DISTs are normally used on brigade-level operations, operational and strategic considerations may dictate their use on battle-group sized ops as part of an enhanced ISTAR component.

78. **DIST Employment**. The DIST may be employed as follows:

a. assisting UAV, ERSTA and other staff in analyzing still and full motion imagery;

b. providing a means for rapidly transmitting imagery data to higher headquarters, either for further analysis or to provide senior leadership with more effective SA;

c. retrieving existing imagery from national level product libraries to assist in IPB and op planning; and

d. tasking national level imagery assets.

79. When planning DIST participation, the collection manager must be aware of the DIST limitations and plan accordingly to avoid taskings that are unlikely to be effectively met. With its connectivity and specialist staff, the DIST has the ability to leverage a large, strategic level community to respond to the commander's operational requirements. National level assets provide a significant ability to acquire imagery without placing personnel or equipment in harm's way. National level assets may have technical capabilities not achievable by field-deployed equipments such as UAVs.

80. Imagery, particularly EO, can be susceptible to enemy deception and camouflage. This can be offset through data fusion and confirmation by other sources.

81. As the DIST will be competing for limited national assets, it is not guaranteed that a specific tasking will be met even if agreed

to; it may later be terminated at the last minute by a higher priority tasking.

82. DIST Roles in the ASC. The DIST shall provide 24/7 presence in the ASC and is responsible for:

a. providing the ASC with timely IMINT product with completed first-level analysis;

b. providing national level IMINT;

c. assisting in imagery analysis;

d. attending ISTAR coord meetings;

e. providing cueing for other assets; and

f. providing liaison with higher IMINT assets.

83. The DIST will normally provide (at any given time) one person with integral IT and comms support, requiring at least one metre of desk space in a system high area. The DIST is responsible for its own comms to higher. However, technical realities dictate that ASC personnel may be required to assist in case of technical difficulties.

84. The G2, through his ASC staff, shall ensure that the DIST is provided and updated with:

a. the commander's PIRs,

b. the IO plan, and

c. the ISTAR plan.

85. The G2 must facilitate integration of the DIST, particularly with regards to the field environment and liaison with other IMINT related assets (UAV, ERSTA, combat camera, etc.).

SPECIAL REMARKS

86. **Security Requirements**. The DIST normally operates at System High.

SECTION 13
TECHNICAL INTELLIGENCE

87. **General**. Battlefield technical intelligence (TECHINT) is the exploitation of foreign materials to support the commander's mission. Technical intelligence aids the commander by providing

products that either identify or counter an adversary's momentary technological advantage.[20]

88. Technical intelligence provides distinct input to the all-source intelligence product by way of:

a. assessment of capabilities and vulnerabilities of newly deployed adversary weapons systems;

b. warning of changes in adversary tactics/ employment due to new or developing technology;

c. countermeasures to new technology or tactics; and

d. translation and interpretation of opposing force documents.

89. There is no default TECHINT specialist presence field deployed. Intelligence staffs may at times carry out TECHINT functions based on individual specialists skills, and all Int pers are able to process material for further appropriate exploitation as required. This requires liaison with higher TECHINT authorities. The fol are examples of material which may need to be passed to higher:

a. **Photographs**, from all angles. Some item must be placed in the picture that will allow measurements to be made—field message books or rulers/romers are ideal.

b. **Sensor data**, of the finest resolution/data rate practicable.

c. **Documents**. Collectors should be sensitized to the concern that documents may be contaminated. If safe and possible, retain photographs or photocopies.

d. **Samples**. It is essential that any samples be packaged to prevent cross-contamination. Close liaison must occur with higher to ensure safety.

e. **Equipment**. Equipment needs to be made safe prior to shipping, particularly if chemicals, toxins or explosives are involved. This may, however,

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[20] Refer to B-GL-352-001/FP-001 Chapter 7 for details.

limit the ability of specialists to exploit the materiel. Close liaison with higher is therefore essential before any action is taken.

90. Basic TECHINT, and the identification of materiel for further TECHINT exploitation, is a standing duty for all Int pers. As part of ISTAR awareness, troops at all levels need to be educated to identify and report material which may be of TECHINT value. Material of TECHINT value includes, but is not limited to:

a. equipment and documents;

b. defectors, agents, civilians and PWs;

c. imagery;

d. sensor data; and

e. emissions, effects and residue from adversary weapon systems and other equipment.

91. **TECHINT Assets in the ISTAR CC and ASC**. There will not normally be a dedicated TECHINT presence at either the ASC or ISTAR CC. Provisions exist for the deployment of direct support battlefield TECHINT teams, which would operate through the ASC.[21] Their role is to:

a. conduct battlefield collection;

b. conduct initial identification and exploitation activities;

c. provide TECHINT to the ASC; and

d. provide assistance to division, brigade and brigade group G2 staff and intelligence line unit personnel through liaison and training.

92. **ASC TECHINT Responsibilities**. Reporting is to be carried out IAW STANAG 2084. All CE/CD must be tagged and logged, with the CE/CD tag recording as a minimum:

a. national identifying letters;

b. designation of capturing unit;

c. date/time of capture;

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[21] Refer to B-GL-352-001/FP-001 Chapter 7 for details.

d. place of capture (UTM);

e. summary of circumstances of capture; and

f. identification of associated PWs.

93. ASC staff must ensure that appropriate security protection is accorded to materiel. The security classification of CE and CD is dictated by:

a. the intelligence value of the CE and CD;

b. the circumstances of capture; and

c. the value of denying the adversary the knowledge that a particular strategic piece of equipment or document has been captured.

94. **Special Remarks**. TECHINT specialists are by default security cleared to the appropriate levels. Due to the specialist nature of these personnel, there may be CI/protection implications.

SECTION 14
MEDICAL INTELLIGENCE

95. **General**. Medical intelligence (MEDINT) is defined as the intelligence derived from analysis of medical data or related to medical requirements. Medical intelligence has a direct bearing on issues relating to WMD, as well as medical issues peculiar to the AO.

96. There will only rarely be a dedicated MEDINT detachment in theatre. It therefore falls to the G2 to ensure that MEDINT activities do in fact take place. This may be done through proper briefing of medical assets in place and, if required, invoking the assistance of a trained medical officer when debriefing personnel who may have information of medical significance.

97. MEDINT functions in two directions:

a. transmitting information of medical interest to higher echelons for further analysis; and

b. ensuring unit medical staff are aware of information which may be significant in defining their preventative, treatment and diagnostic protocols.

98. In the absence of dedicated MEDINT personnel, formation medical personnel, as the resident technical experts, must be prepared to assist the G2 staff in dealing with issues of MEDINT relevance. Throughout the campaign, but particularly during the planning process, these may include:

a. diseases peculiar or endemic in the AO;

b. plants, animals and insects which have hazardous or poisonous properties;

c. climatic issues which have direct impact on health;

d. enemy capabilities which may have an impact on the medical system (e.g., WMD); and

e. environmental issues including toxic waste, sanitation, and pollution.

99. **MEDINT Assets in the ISTAR CC**. Not normally deployed, this becomes a secondary duty for G2 and medical personnel. In the unusual case where specific MEDINT staff are assigned, they should be provided unfettered access to the ASC and its national level IT systems. Most MEDINT staff find their work most effective when based in a clinical setting and will therefore normally prefer to base out of the integral medical facility. MEDINT personnel are normally security cleared to the appropriate levels, although this must naturally be confirmed.

CHAPTER 5
ISTAR SENSOR INTEGRATION

SECTION 1
GENERAL

1. Finding the enemy is essential to our ability to fix and strike him successfully. Intelligence, surveillance, target acquisition and reconnaissance (ISTAR) assets gain information and intelligence to identify enemy locations, capabilities and intentions. This information is acquired through the employment of surveillance, target acquisition systems, and recce assets and the coordination of these assets with other ISTAR systems. The assets allocated to this role include unmanned aerial vehicles (UAVs), weapon locating and surveillance radars, electronic warfare (EW), air and aviation as well as the necessary linkages to strategic and operational ISTAR assets. The process is also aided by the participation of fire support and Engineer terrain Analysis (TERA) staff in the intelligence preparation of the battlefield (IPB) and targeting processes.

2. Several tenets should be adhered to when integrating ISTAR sensors:

a. **Mix the Sensors**. Always attempt to place several widely different sensors on each target—imagery and EW, for instance, rather than imagery and UAV.

b. **Mutual Protection**. Use overwatch where possible. EW assets may be tasked to listen for signs that long range recce has been detected, providing warning of potential ambush. Provide multiple redundancies on high threat named areas of interest (NAIs).

c. **Zoom In**. Use low resolution sensors (which may be able to detect activity, but not define it) to "cue" high resolution sensors (which typically have a smaller field of view, thus take more time to cover the same ground but provide better definition).

d. **Leverage Skills**. The All-Source Cell (ASC) has a wide variety of specialists at its disposal. Many of them will think differently, allowing for more solutions to difficult problems.

e. **Pace**. Do not needlessly overtask. The average number of NAIs assigned to bde recce sqn is between 10 and 15. For a BG it is between 5 and 10.

f. **Imagine**. Do not be bounded by doctrinal and technical specifications. Some equipment performs well beyond spec—other equipment will not meet spec.

GROUND SURVEILLANCE RADAR

3. Terrain will dictate coverage of ground surveillance radar (GSR) assets, therefore, pre-planned locations can be utilized by incorporating geomatics products (intervisibility overlay) during the ISTAR planning phase. GSR is normally used to cue higher resolution sensors in order to provide a higher level of definition for targeting.

SOUND RANGING EQUIPMENT

4. Sound ranging equipment is not exceptionally reliable in mountainous terrain.

AIRBORNE SURVEILLANCE PLATFORMS

5. Airborne sensors must be planned with enough lead time that airspace coordination measures can be adhered to. While airborne surveillance platforms are extremely responsive, they are also vulnerable to weather and availability problems. Some sensors are vulnerable to ground fire. Their use must also be carefully assessed against the potential of alerting the enemy to our intent.

TERRAIN MANAGEMENT WRT ISTAR SYSTEM REQUIREMENTS

6. Terrain management is vital to successful ISTAR operations. Given the numbers and types of sensors available at a brigade group level, terrain must be tightly controlled in order to avoid fratricide and congestion. Other issues such as coordinating with flanking units will also be required as EW baselines may extend into terrain owned by a flanking unit. As most sensors are manned

by small crews, sighting should take advantage of the security provided by manoeuvre units.

SECTION 2
AIR SPACE MANAGEMENT (TBC)

DECONFLICTION OF ISTAR ASSETS

7. Deconfliction of ISTAR assets is required to ensure that sensors do not inadvertently disrupt each other. This is most prevalent when using active emitting sensors, and every effort must be made to ensure frequency selection that will minimize interference between systems.

8. Effective deconfliction is critical for several reasons:

a. to prevent fratricide;

b. to prevent unnecessary duplication of effort;

c. to prevent sensor disruption and interference; and,

d. to prevent false or circular reporting.

9. The ISTAR matrix is the primary deconfliction tool and is reliant upon the results of the ISTAR coord meetings. Most importantly, timely and accurate ISTAR matrices must be in the hands of all concerned organizations, especially units through who's arcs of fire ISTAR assets will be moving. While responsibility for an accurate ISTAR matrix rests with the G2, ISTAR Coordination Centre (ISTAR CC), ASC and G2 Plans, units must be given the opportunity to study the matrix and comment on possible problems.

CHAPTER 6
THE ISTAR PROCESS

THE ISTAR PROCESS

1. In an ideal intelligence, surveillance, target acquisition and reconnaissance (ISTAR) environment, every sense and/or engagement platform/asset is subsumed under ISTAR planning. When this is the case, the surveillance and targeting of high value / high payoff targets (HVTs/HPTs) is significantly streamlined, while maintaining flexibility to engage targets of opportunity. Increased focus and overlapping arcs of observation for a larger number of ISTAR assets will also result in more frequent targets of opportunity. In order to disseminate the ISTAR plan, the intelligence annex to the op O will contain three appendices:

a. the ISTAR matrix;

b. the ISTAR overlay; and

c. high value / high payoff list.

2. The ISTAR process itself is broken down into a series of steps. As ISTAR incorporates a number of disciplines, hence a number of doctrines, the ISTAR process is affected by a variety of cycles that must be integrated into the ISTAR process.

STEPS OF THE ISTAR PROCESS

3. In order to be effective, the ISTAR process must commence as early as possible, usually in concurrence with Step 2 of intelligence preparation of the battlefield (IPB). This results in a logical, well thought out product and enhances our ability to confirm or deny enemy deception methods. These steps are as follows:

a. **Step 1**. Draft named areas of interest (NAI) and targeted areas of interest (TAI) can be identified while conducting terrain analysis. As terrain will dictate movement, it will also impact on placement of NAI/TAI and Decision Points (DP) (concurrent with step 2 of IPB). **Staff involved: G2 Plans staff**.

b. **Step 2**. Having already conducted mission analysis with the comd, a draft list of HVTs and HPTs can be created as the threat is evaluated.

HVT/HPT are held as a database and must be tightly coordinated with the FSCC for input to the attack guidance matrix (AGM, concurrent with step 3 of IPB). **Staff involved: G2 Plans staff, Fire Support Coordination Centre (FSCC)**.

c. **Step 3**. NAI/TAI and DP are amended on the ISTAR overlay in accordance with possible enemy courses of action (COAs). The HVT/HPT lists (HVT/HPTL) are amended as well, and a draft version of the attack guidance matrix is started (concurrent with step 4 of IPB). **Staff involved: G2 Plans staff, FSCC and ESCC**.

d. **Step 4**. During the war game between G3 and G2, the ISTAR overlay will be finalized, HVT/HPTL will also be finalized, and coordination can begin to finalize the AGM. This is also the point at which the G3 staff will require ISTAR input to the decision support template and the synchronization matrix as it is during this step that Operations and Intelligence fuse together for the remainder of the ISTAR operation (concurrent with the DECIDE function of the targeting cycle). **Staff involved: G3, G2, brigade artillery intelligence officer (BAIO), FSCC, AD, Avn, Air, Engineer Support Coordination Centre (ESCC), att arms, ASC staff**.

e. **Step 5**. The ISTAR overlay has been finalized. Sensors must then be tasked through the ISTAR task matrix (described in detail at Annex A), which is also coordinated with the AGM. The ISTAR task matrix and overlay is then issued with the op O as an appendix to Annex C Intelligence. At this point the units can, IAW number allocations, request the addition of other NAI/TAI within the BG area of responsibility (AOR), and these will be incorporated with the Brigade ISTAR plan. Units will verify if they can observe the assigned NAI/TAI and then plot any NAI/TAI that the unit has chosen as a result of unit IPB. The unit will also plot unit observation post (OP) locations, hi-light any assigned NAI the unit cannot observe and then send the results to the

ASC. With the concurrence of the ISTAR CC, the ASC staff will :

(1) reassign NAI/TAI which cannot be observed by the unit it was originally assigned to;

(2) deconflict and coordinate NAI/TAI plotted by the units and liaise with higher and flanks if required;

(3) complete a bde consolidated ISTAR overlay, which will depict all NAI/TAI and the locations of all OPs; and

(4) issue an updated ISTAR overlay and ISTAR matrix to all units (concurrent with the DIRECTION phase of the intelligence cycle). **Staff involved: comd, G3, G2, ASC, ISTAR CC**.

f. **Step 6**. All assigned NAI/TAI are active and systems are collecting (concurrent with the COLLECTION phase of the intelligence cycle and the DETECT phase of the targeting cycle). **Staff involved: all within bde HQ**.

g. **Step 7**. Collected information is then sent from the sensor or sensor HQ to the ASC. This info is then plotted on the fusion table and processed into situational awareness. This info is then assessed for its applicability as targeting data, which is passed immediately to the ISTAR CC, and targets are engaged in accordance with the AGM. This processed data (intelligence) is then transferred to the operations table in order to update the brigade HQ common operating picture (COP). Only enemy specialist pl and manoeuvre units of coy size and above are depicted on the COP (concurrent with the PROCESSING phase of the intelligence cycle). **Staff involved: all within bde HQ**.

h. **Step 8**. Based on collected and analyzed information, INTREPs are sent on combat net radio in order to maintain an all informed net. Concurrently, targeting data is passed to the

ISTAR CC for use by the FSCC, G3 Avn, G3 Air and electronic warfare (EW) in order to engage targets in accordance with the AGM and to engage targets of opportunity (concurrent with the DISSEMINATION phase of the intelligence cycle and the DELIVER phase of the targeting cycle). **Staff involved: ISTAR CC, ASC, FSCC, ESCC, BAIO, G3, G3 AIR, G3 AVN, EW, ISTAR CC, ASC**.

i. **Step 9**. As per the ISTAR task matrix, battle damage assessment (BDA) missions are conducted in order to verify if re-engagement is required and, if so, which assets must be utilized (concurrent with the ASSESS phase of the targeting cycle). **Staff involved: G3, G2, FSCC, ESCC, BAIO, EW**.

j. **Step 10**. The ISTAR cycle continues through the constant evaluation of NAI and TAI and whether or not the enemy COA requires changes be made to the ISTAR plan. **Staff involved: G2, G3**.

CHAPTER 7
CONDUCT OF THE ISTAR BATTLE

GENERAL

1. The intelligence, surveillance, target acquisition and reconnaissance (ISTAR) battle will encompass the deep, close and rear battles as its function. This results in the requirement for flexibility and adaptability throughout the ISTAR battle and across the complete area of operations (AO).

PLANNING THE ISTAR BATTLE

2. Planning the ISTAR battle is a crucial phase. G3 Plans and G2 Plans must be closely linked so that the ISTAR plan is tailored to support the comd's requirement.

3. **Counter-Deception**. All attempts must be made early in the process to identify enemy deception measures. Dummy weapon platforms, smoke obscuration, black rubber matting on bridges are just some low-tech methods of deception which are exceptionally effective and must be identified during the planning phase of the ISTAR battle so assets are not wasted. Deception is easiest and most effective when only one sensor needs to be deceived. While plywood mock-ups of surface-to-air missile (SAM) sites may fool some imagery, when electronic warfare (EW) assets are directed at the plywood target, the subterfuge is soon revealed. Conversely, a decoy radio network will not survive the scrutiny of several unmanned aerial vehicle (UAV) or electro-optical reconnaissance, surveillance and target acquisition (ERSTA) missions. The prime method of protecting against deception is redundancy and variety in sensor deployment. This is followed by healthy cynicism during the analytical process.

COORDINATING WITH HIGHER, LOWER, AND FLANKING UNITS

4. Coord within the ISTAR function with higher, lower and flanks is critical to the prevention of fratricide and reducing or eliminating any gaps in coverage.

ADVISING ON SENSOR INTEGRATION, INCLUDING DUAL SOURCE TARGETING

5. Sensor integration should always utilize the concept of dual source targeting whenever possible. That is, integration of sensors should be executed to ensure that critical named areas of interest (NAIs), those which have a direct impact on the commander's DST, are covered by more than one sensor whenever possible. These sensors should be of different types with different technical capabilities. For example, an observation post (OP) with binoculars can observe an NAI while a Coyote using man-portable surveillance and target acquisition radar (MSTAR) also observes that NAI.

ADVISING THE COMMANDER ON ISTAR RELATED ISSUES

6. As the ISTAR plan incorporate all bde assets, the commander must be kept informed of the initial ISTAR plan and of any significant changes during execution. This is normally accomplished through the G3, but there are times when the commander will want to be briefed in detail.

ISTAR OVERLAY TIPS

7. Named areas of interest (NAIs) and targeted areas of interest (TAIs) should be numbered starting at the enemy side of the overlay, running North to South. This allows those listening on combat net radio (CNR) to understand that when reconnaissance squadron (recce sqn) reports info on, for example, NAI 2001, the fact that it is a low number is indicative that the NAI is closest to the enemy. This also allows battle tracking: as the NAI number increases, the enemy is getting closer.

EXECUTING THE ISTAR BATTLE

8. The execution of the ISTAR battle begins as soon as the ISTAR plan is disseminated. From there it is the duty of the ISTAR CC and the ASC to monitor the collection and targeting effort, identify any significant gaps and recommend retasking of sensors. Controlling the ISTAR battle is a matter of constant battle tracking and revision. If an enemy course of action (COA) is confirmed, the need to change the weighting of NAI/TAI may become necessary.

Any changes to the ISTAR plan may have an impact on the attack guidance matrix, decision support template and the synchronization matrix. Therefore, all staff and units must be kept informed of any changes to the ISTAR plan. The ISTAR battle should begin 12–24 hours before the lead elements of a brigade group engage the enemy. This is very much the brigade's deep fight and as such will have a huge impact on the commander's operations.

CHAPTER 8
ISTAR IN RELATION TO INFORMATION OPERATIONS

GENERAL

1. Information operations (IO) are those operations that gain information and knowledge that enhances friendly execution of operations, while denying the enemy similar capabilities by whatever means possible. The application of IO enhances battlefield visualization and improves designation of main effort, control of operational tempo and synchronization. IO is divided into two action components and four support components. The two action components of IO are offensive IO and defensive IO. Their elements are:

   a. operational security (OPSEC);

   b. counter intelligence (CI);

   c. military deception;

   d. psychological operations (PSYOPS);

   e. counter PSYOPS;

   f. electronic warfare (EW);

   g. computer network attack (CNA);

   h. special information operations (SIO); and

   i. physical destruction.

2. The four support components of IO consist of:

   a. communication information systems (CIS),

   b. intelligence, surveillance, target acquisition and reconnaissance (ISTAR),

   c. civil-military cooperation (CIMIC), and

   d. public affairs.

ANNEX A
COLLECTION MATRICES

1. The following diagram demonstrates the activity flow required to ensure a thorough collection planning process. Although the vast majority of priority intelligence requirements (PIR) can be collected through the use of named areas of interest (NAIs), there will always be some that do not suit themselves to geographical management. Additionally, collection, coordination and intelligence requirements management (CCIRM) requirements for effective sensor and collection management differ from those of collectors on the ground. These two factors indicate a continuing requirement for a document such as the intelligence collection plan (ICP). In order to avoid the inherent duplication of effort and potential for disconnects this creates, the classic ICP has been slightly modified to meet ISTAR needs. The changes allow the ISTAR matrix to be a subset of the ICP rather than a separate document.

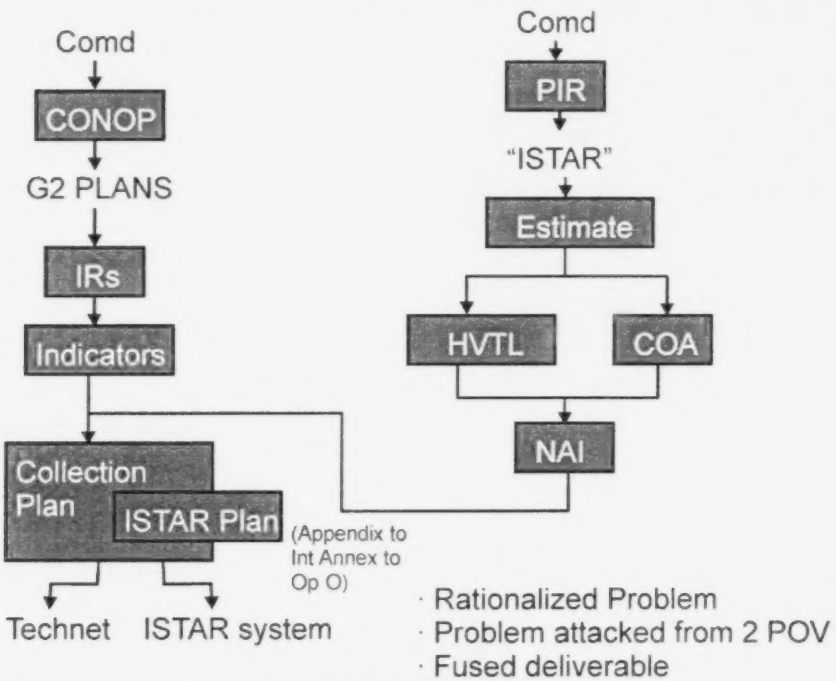


Figure 8A-1: Combined ICP/OPP Process

2. The formats attached have been proven operationally and should be modified only as absolutely necessary. In particular, the ISTAR matrix at figure A-3 has been designed based on operator requirements.

3. **Classification**. The completed ICP may be a SECRET product. The ISTAR matrix extract should be kept at as low a security classification as practicable--aim for Confidential or lower, keeping in balance OPSEC concerns and the need to inform as many of the "players" as possible in order to prevent fratricide, etc.

4. **Reporting Period**. Where possible, use absolute times only. Using relative timings such as "D-2, H+1" becomes problematic if "D" or "H" is changed and may also represent OPSEC concern.

ISTAR SERIAL	NAI/TAI			RESP	REP PERIOD	REMARKS	PIR	IR	INDICATIONS	UNIT A	UNIT B	UNIT C	RECCE	BAIO	ENGR	EW	UAVIDIST	FLANKING	HUMINT	GEO	MET	HIGHER	REPORTS
	IDENT	LOC	DESC																				
001	NAI W 1003	NV 2645	Crossroads area	Recce Sqn	260600Z		PIR #1 Where will 280 MRR cross the river?	IR #1 Does 280 MRR have div level br eqpt?	a. TMM at NV 2645				X			X	X	X					RECCEXREP
002	NAI W 1002	NV 2952	Open woods	Unit A	260400Z	Engr LO to accompany recce ptl			b. Div engr plant in area NV 2952	X		X	X		X	X	X	X					RECCEXREP
003		NC 2951 NV 3054	River Astrix	Unit C	As reported			IR #2 In what condition are the brs in area NV 2549 to NV 3056	a. Engr recce along RIVER ASTRIX														RECCEXREP
004	NAI W 1004	NV 3056		All	As reported	Two SB Ptls			b. Air recce N of Broucksele		X					X	X						Contact
Higher					As reported	Co-ord with allied bde to right					X	X	X			X	X	X					
005				Recce Sqn	260400Z		PIR #2 When will 280 MRR cross the river?	IR #1 Is the obs clearing eqpt of 280 MRR back up to str/	a. Mine rollers in fwd det				X			X	X	X					EO
006					As reported				b. Loc, dispn of 2S1 btys in vincinity RIGAL														
007	NAI W 1003			Unit B	260200Z		PIR #3 In what stir will 280 MRR cross the river?	Ir #1 Where is the assessed Div immed obj?	a. Loc, dispn of T-72 Bns		X		X			X	X	X					EW/EO
008	All			Arty	As reported				b. Loc, dispn of 2S3 btys					X									
009	All				As reported				c. Loc, dispn of 81 Indep Tk Bn				X			X	X	X					EW/EO

Figure 8A-2: Sample of Spreadsheet Intelligence Collection Plan

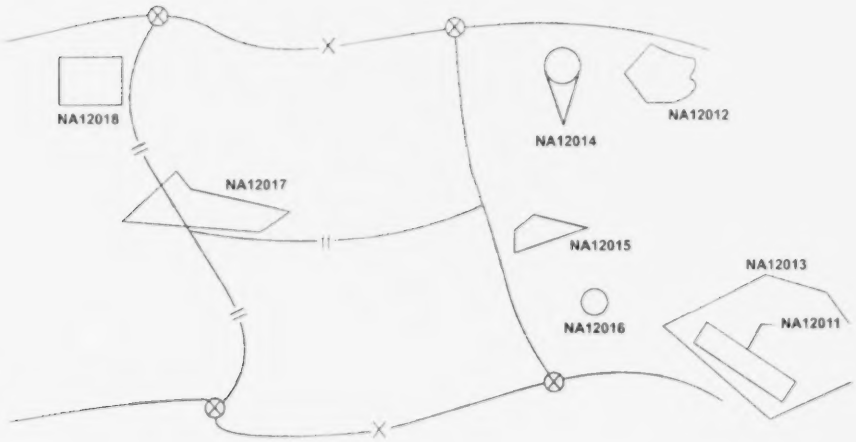
ISTAR SERIAL	NAI/TAI			INDICATORS	RESPONS IBILITY	REP PERIOD	REMARKS
	Ident	Loc	Desc				
001	NAI W1003	NV 2645	Crossroads	Bridging equipment	Recce Sqn	260600Z	
002	NAI W1002	NV 2952	Open woods	Div engr plant	Unit A	260400Z	Engr LO to accompany recce ptl
003		NV 2951 NV 3054	River Astrix	Engr recce RIVER ASTRIX	Unit C	As reported	
004	NAI W1004	NV 3056		Air recce N of BROUCKSELE	All	As reported	Two SB Ptls
005				Mine rollers in fwd det	Recce Sqn	260400Z	
006				Loc, dispn of 2S1 btys in vicinity RIGAL		As reported	
007	NAI W1003			Loc of T-72 bns	Unit B	260200Z	
008	All			Loc, dispn of 2S3 btys	Arty	As reported	
009	All			T62 tanks		As reported	

Figure 8A-3: ISTAR Task Matrix, as Issued with Op O

NOTE

This is a subset of the ICP, with those columns that have OPSEC considerations or are not operationally relevant either hidden or removed.

ANNEX B
ISTAR OVERLAY



ANNEX C
ASC DEPLOYMENT SECURITY GUIDANCE

1. The National Special Centre (NSC) is responsible for the promulgation of DND Secure Compartmentalized Information Facility (SCIF) Physical Security Policy and for accreditation. They are the sole authority for resolving controversies, disagreements or conflicting interpretations of applicable policy. Security officers shall not deviate from directives without the authority of the NSC.

2. D IM Secur is the DND OPI for IT security/policy and emission security (EMSEC) issues and the departmental certification and accreditation (C&A) authority.

3. As soon as possible on receipt of initial warning orders for deployment (or movement) of the All-source Cell (ASC), the NSC must be notified. For successful and efficient accreditation to occur, it is critical that the security officer and COMCO cooperate closely with the NSC and the relevant system managers of all IT systems to be deployed with the ASC. Of note, directives specify several critical requirements for technical assistance visits (TAVs) and inspections.

4. Initial request for accreditation and authority to operate must be accompanied by a threat risk assessment (TRA) to include precautions and risk management measures. The TRA is normally completed by the military police, or in their absence the unit security officer, with inputs from the G2 section. As a minimum, the TRA must address:

a. up-to-date assessment of tactical situation and security threat on the ground;

b. diagram of planned installation, including security measures;

c. copies of TSCIF Physical Security Orders, TSCIF IT Security Orders and tactics, techniques and procedures (TTP) to be implemented (NSC can provide samples);

d. copy of storage, destruction, emergency destruction and evacuation plans,[22] which shall

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[22] NSC can provide samples on request.

include listing of stores/materials required to implement the plan[23]; and

e. certification by the commander of implementation of security measures.

SECURITY CHECKLIST

5. Although specific security measures will vary with each deployment due to varying configurations and threat levels, the following *minimal* security measures shall apply in all instances and must be signed off as implemented by the CO prior to accreditation[24]:

a. Type 2 barbed or razor-wire fence (triple concertina) shall surround the entire perimeter, with sufficient open ground to permit 360° observation and prevent scaling/jumping or climbing into the perimeter.

b. One single access point, manned 24/7 by at least two armed personnel. In semi- or non-permissive environments, this access point shall be provided with hardened protection.

c. Continuous surveillance or patrolling of the entire perimeter. In a semi- or non-permissive environment, all portions of the perimeter shall be capable of being covered by fire from fighting positions.

d. Unless TEMPEST shielding is provided, an area of at least 200 metres radius, measured from the perimeter fence, shall be under continuous positive control.

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[23] It is not sufficient to outline a destruction method that would take several hours when the tactical situation reasonably dictates the requirement to sanitize with 30 minutes notice. In semi- or non-permissive environments, incendiary devices should be made available for emergency destruction purposes.

[24] Note that these measures may be added to or strengthened either by the deploying OR the accrediting organization but may not be reduced by either.

e. Under no circumstance shall classified material be observable, or discussion take place, in open areas or locations observable from outside of the perimeter fence.

f. Unescorted entry shall only be to appropriately cleared personnel, registered on an access control list maintained by the ASC sr NCO and approved by the ASC pl comd and unit security officer (USO).

g. Escorted entry shall only be into properly sanitized sections of the ASC and shall only be accorded to personnel who have a need for entry approved by the ASC pl comd or G2 **and** the USO or commander. Under no circumstances shall any person who is not a bona fide member of the current operation be accorded entry. Examples of need for entry include specialist maintainers and debriefing of selected patrol personnel where information of a sensitive or very restricted nature is involved.

h. Entry and exit of all personnel, including those on the access control list, shall be registered in a log. For personnel not on the access list, this shall include name, rank, service number, escort identity and purpose of visit.

i. Physical separation of at least one metre shall be maintained between classified equipment and unclassified electrical or electronic equipment which either is physically connected (telephone or electrical cables) outside of the ASC perimeter or capable of (even theoretically) transmitting outside of the ASC perimeter.

j. Personnel entering the facility shall be checked for electronic, transmitting or recording devices. Such devices shall remain at the access point and shall not enter the ASC, except as absolutely required in the execution of their duties. Examples of the latter include maintenance equipment and test-sets or electronic devices from which data must be down-loaded for analysis. All such equipment shall be duly logged in and out and shall require

the authorization of the ASC commander or USO. Commander and staff communications devices are **not** exempt; if required by the commander, they may be monitored at the access point.

k. Sufficient stores and personnel shall be present in the ASC at all times to permit destruction of all classified material within the timeframe established in the emergency destruction plan.

l. The security and emergency destruction plans shall be regularly read and reviewed by ASC staff.

6. Reference documents:

a. National Defence Security Policy (NDSP) on the DWAN: http://vcds.mil.ca/police/pubs/ndsp/

b. Policy Directive SPD 11, available through NSC.

ANNEX D
ISTAR TERMINOLOGY

1. **Attack Guidance Matrix (AGM)**. A visual display of approved high payoff targets, the method and accuracy of detection involved, time sensitivity and method of engagement and the requirement and method for post-attack assessment.

2. **Battlefield Framework**. The battlefield framework is used to coordinate operations thereby promoting cohesion and allowing command to be exercised effectively. This is achieved through geographic measures, which serve to distinguish between those things that a commander can control in space and time to fulfil his mission, those things that may interest him to the extent that they may affect the successful outcome of his mission and those things that he can directly influence now. These equate respectively to area of operations (which will be designated for a commander), area of interest (which he will then decide for himself) and area of influence (which will be a function of his eventual plan and the allocated resources).

   a. **Area of Operations**. The purpose of allocating an area of operations (AO) to a subordinate is to define the geographical limits, a volume of space, within which he may conduct operations. Within these limits, a commander has the authority to conduct operations, coordinate fire, control movement and develop and maintain installations. Deep, close and rear operations are conducted within the area of operations specific to each level of command. For any one level of command, areas of operations will never overlap. Conversely, in dispersed operations they may not be adjacent.

   b. **Area of Interest**. The purpose of defining an area of interest (AI) is to identify and monitor factors, including enemy activities, which may influence the outcome of the current and anticipated missions beyond the area of operations. A commander will decide for himself how wide he must look, in both time and space. Areas of interest may overlap with those of adjacent forces and this will require coordination. The scope of this wider view is not limited by the reach of organic intelligence forces but depends on the reach and mobility of the enemy.

Where necessary, information must be sought from intelligence sources of adjacent and higher formations.

c. **Area of Influence**. The area of influence is the physical volume of space that expands, contracts and moves according to a formation or unit's current ability to acquire or engage the enemy. It will be determined by the reach of organic systems or those temporarily under command. At divisional level and below, it is unlikely that the area of responsibility and the area of influence will coincide particularly as terrain has a more restricting effect on reach and mobility. The area in which a force can bring combat power to bear at any time will therefore vary. It can only be realistically judged by the commander, who needs constant awareness of his area of influence. He must also visualize how it will change as he moves against the enemy and, therefore, how he might task, organize and deploy his subordinates. The use of control measures can assist the commander in doing this.

d. **Area of Intelligence Responsibility**. The area of intelligence responsibility (AIR) is the area allocated to a commander, in which the commander is responsible for the provision of intelligence within available means.[25] This area is within a commander's AO and may extend beyond organic weapons engagement range, especially in operations other than war (OOTW). The AIR may be assigned to the commander by virtue of the capability of organic collection systems to fulfil the higher commander's priority intelligence requirements (PIR).

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[25] AAP-6 *NATO Glossary of Terms and Definitions.*

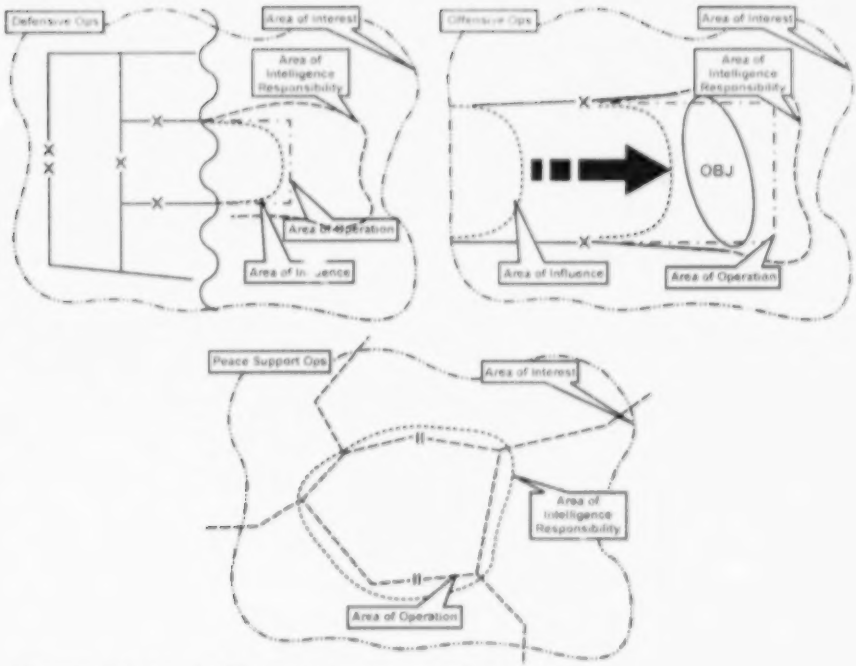

Figure 8D-1: Battlefield Framework

3. **Battlefield Visualization**. Battlefield visualization (BV) is defined as "the process whereby the commander develops a clear understanding of his current state with relation to the adversary and the environment, envisions a desired end state, and then subsequently visualizes the sequence of activity to this end state."[26] BV has two components: the art of BV, which is a human process that can be developed in all of us to a greater or lesser degree, and the science of BV, which deals with the technology that can enhance our human capabilities.

4. **Command Support**. The integrated system of resources necessary to enable command.

5. **Common Operating Picture**. The common operating picture (COP) is a visual product through which SA is presented to assist the commander and staff in the decision-making process. The COP is part of the command and control process and is the mechanism through which reports, returns and planning information are compiled and presented. A COP is tailored to each level of command. For

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[26] B-GL-300-005/FP-001 *Information Operations*, Chapter 1.

example, the HQ 1 CMBG Ops table represents the COP for 1 CMBG. As such, the Red SA is plotted down to coy level and the Blue SA is plotted down to pl level, all on the same overlay which gives the commander and staff an instant information source with regard to the COP.

6. **Decision Points**. Critical areas or events (including targeting), which may require decisions by the commander.[27]

7. **Dual Source Targeting**. Every attempt will be made to engage targets utilizing more than one source for targeting information. Ideally, technical platforms (unmanned aerial vehicle [UAV], electronic warfare [EW], higher assets) will be used to compliment recce platforms on the ground (patrols, bde recce sqn). This combination of surveillance platforms ensures economic and accurate fires can be brought to bear.

8. **High Value Target List**. A high value target list (HVTL) is a list of those assets that the enemy commander requires for the successful completion of a specific course of action.

9. **High Payoff Target List**. A high payoff target list (HPTL) is a prioritized list of those high value targets (HVTs) whose loss to the enemy will contribute substantially to the success of friendly operations.

10. Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) integrates the following functions:

a. **Intelligence**. Intelligence encompasses three elements: a product, a process and an organization. All three elements are included in the "I" in ISTAR. At the heart of the ISTAR capability are intelligence staffs and units that process data and information from single sources and generate the all-source intelligence needed by commanders to develop understanding and make informed decisions.

b. **Surveillance**. Systematic surveillance of the battlespace provides for the collection of information. It is conducted by observation using optical sensors, electronic detection devices, thermal

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[27] B-GL-300-003/FP-000 *Land Force Command*, Chapter 6.

imagery, radar, satellites, UAVs, attended and unattended ground sensors and other means. It also cues reconnaissance and target acquisition resources to investigate specific activities or obtain more detailed data/information on a particular observation. It provides security to friendly forces through early warning of adversary activity within gaps, on exposed flanks or in rear areas.

c. **Target Acquisition**. Target acquisition (TA) provides detailed information about enemy forces and locates them with sufficient accuracy to permit continued monitoring, other sensor cueing or target designation and engagement. It includes TA for both direct and indirect fire weapons as well as for other effects such as information operations.

d. **Reconnaissance**. Reconnaissance is active in nature. Reconnaissance assets are assigned a mission to obtain information about the adversary or terrain. Reconnaissance includes activities performed by reconnaissance units, directed sensors and personnel. Many elements of the ISTAR capability can perform reconnaissance functions.

11. **ISTAR Overlay**. An overlay that graphically depicts named areas of interest (NAIs) and targeted areas of interest (TAIs) with corresponding numeric designators. The overlay is supported by the ISTAR task matrix. An example of the ISTAR overlay can be found at Annex B.

12. **ISTAR Task Matrix**. This document delineates tasks to collectors in conjunction with the ISTAR overlay. As the ISTAR task matrix controls every ISTAR asset in the brigade, this document is signed-off by the brigade commander (example at Annex A).

13. **Named Area of Interest**. A named area of interest (NAI) is a geographical area (area NAI) or point (point NAI) where we expect to see an enemy event, be it based on a specific unit size or type of equipment. NAIs are based on likely enemy courses of action and must be placed in such a manner that, if a target is sighted within the NAI, the terrain will allow enough time for assets to engage in the corresponding targeted area of interest (TAI). The placement of NAIs is critical to the ISTAR plan as NAIs are where a brigade or BG will focus the majority of its ISTAR assets.

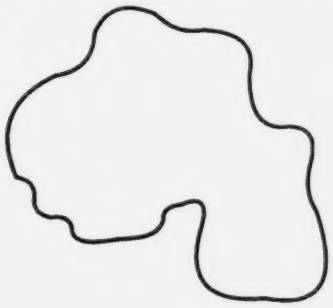

Figure 8D-2: Area NAI

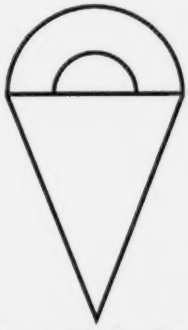

Figure 8D-3: Point NAI

SENSE

14. **Sensor to Shooter Link**. The concept of the senor-shooter link is to allow fast and accurate engagements based on a sensor feed directly to an engagement system. Although this is ideal, the risk of fratricide is high. Therefore, a human must always be in the loop between sensor and shooter to verify the target is enemy.

15. **Situational Awareness**. Situational awareness (SA) is the representation of knowledge that will assist the commander in his decision making. SA has three components:

a. **Blue SA**. Provides information on the friendly forces disposition and overall battlefield geometry (i.e., key terrain / vital ground, boundaries, control measures, etc.). It also provides the commander with an accurate visualization of the materiel status of his own and other friendly forces.

b. **Red SA**. Provides information on the enemy location, disposition, status and intent.

c. **Brown SA**. Provides information on all aspects of the environment where operations are conducted, including assessed deployment sites for EW, Radio Re-broadcast (RRB) and air defence (AD).

16. **Targeted Area of Interest**. A targeted area of interest (TAI) represents an area where the commander can influence the battle by destroying, delaying or disrupting enemy forces through the use of long-range engagements. A TAI will become active once the corresponding NAI indicates that a suitable target array will present itself in the TAI. TAIs are always coordinated with the FSCC, EWCC, Tactical Air Command Post (TACP), higher HQ and flanking formations.

Figure 8D-4: TAI

17. **Unit Numeric Designators**. Each brigade within the Canadian Army is assigned a specific set of NAI/TAI numbers. These numeric designators are used to indicate which unit requested the NAI/TAI and does not indicate who is responsible for surveillance (that information is found in the ISTAR task matrix). Each brigade's identifier is found as the first number of each NAI. For example, NAI 5012 would belong to 5 GBMC.

ACRONYMS

ASCC	Air Support Control Centre
CCIRM	Control, Coordination Information Requirements Management
CD	Captured documents
CE	Captured equipment
ERSTA	Electro-optical Reconnaissance, Surveillance and Target Acquisition
ESCC	Electronic Support Control Centre
EWCC	Electronic Warfare Coordination Centre
FSCC	Fire Support Coordination Centre
SCIF	Special Compartmentalized Information Facility
SEWOCC	Strategic Electronic Warfare Operations Coordination Centre